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ABSTRACT

In these proceedings of the Teacher Librarian Strand of the ITEC Virtual Conference (1996), international contributors present papers on 12 key topics of interest to teacher librarians. The following papers topics are addressed: (A) Censorship and the Internet in Schools: Problems and Solutions; (B) Hot Spots on the Web for TLs; (C) Children's Literature and the Internet; (D) The Internet and the TL's Role in the School: Possible, Probable and Preferred Futures; (E) Creating and Managing a Library Web Page: The Practicalities; (F) What Students Produce from the Net: Assessing their Work; (G) Meeting the Professional Information Needs of Teacher Librarians; (H) Home-School Links: Networking the Learning Community; (I) Evaluating Internet Information Services; (J) Access-Forget about Ownership; (K) Cooperative Planning and Teaching: A Collaborative Teaching Model for the 21st Century?; and (L) MOOving Around the Net: The Educational Potential of MOOs. (AEF)

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A meeting of the minds

ITEC Virtual Conference

ITEC VC'96

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'96 Proceedings

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A Meeting of the Minds:
ITEC Virtual Conference '96 Proceedings

edited by

Lyn Hay
and
James Henri

AUSTRALIAN SCHOOL LIBRARY ASSOCIATION
1996

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INTRODUCTION

Welcome to the proceedings of the Teacher Librarian Strand of the ITEC VC'96. This virtual conference, the brainchild of ITEC Managing Director Mal Lee brought together an exciting line-up of international contributors presenting papers on twelve key topics of interest to teacher librarians in 1996. You will find that some papers are informative, some practical, some entertaining, some controversial, and others contributing to the research base of teacher librarianship. We believe that you will find all the papers stimulating.

This virtual conference experience for teacher librarians worldwide was a new and exciting way to communicate with international colleagues within a more structured, formal electronic forum, than the professional listservs of the Internet, which for many of us has become our daily professional lifeline through which we can tap into the collective wisdom of the profession.

For many of us, this virtual conference was also a little daunting. The participants were exploring a new dimension in the realm of electronic professional development opportunities, and so it was fabulous to draw together such a cast of international experts who were able to form the agenda and moderate the discussion during the ten days of the virtual conference.

We congratulate all Virtual Conference contributors, moderators and participants for having the vision and leadership (and faith in our ability?) to join us in taking a giant leap into the deep unknown of this 'virtual meeting of the minds'.

The TL Strand consisted of the following topics:

- Censorship and the Internet in Schools: Problems and Solutions
- Hot Spots on the Web for TLs
- Children's Literature and the Internet
- The Internet and the TL's Role in the School: Possible, Probable and Preferred Futures
- Creating and Managing a Library Web Page: the Practicalities
- What Students Produce From the Net: Assessing Their Work
- Meeting the Professional Information Needs of Teacher Librarians
- Home-School Links: Networking the Learning Community
- Evaluating Internet Information Services
- Access - Forget About Ownership
- Cooperative Planning and Teaching: a Collaborative Teaching Model for the 21st Century?
- MOOving Around the Net: the Educational Potential of MOOs.

While each of the Virtual presentations were designed to stimulate discussion, many were also designed to assist the participants in the exploration of a range of WWW information sites, sources and services that could potentially meet teacher librarians' professional information needs, as well as those of the school community -- teachers, students, administrators and parents. In other words, this virtual conference did not have specific boundaries within which participants functioned.

As a reader of these proceedings you too are not confined to a set of conference presentations but rather are able to explore the Internet via the many hyperlinks provided in the virtual presentations (although you do not have the hot link advantage afforded the VC participants).

We trust that you enjoy this collection of papers and that you take the opportunity to explore many of the offered sites. You may even take the opportunity to communicate with presenters with respect to issues raised in their papers. If you do enjoy and learn from this experience, why not take the next step and sign up for the next VC. If you would like details of ITEC's VC'97, please email us.

Lyn Hay <lhay@csu.edu.au> and James Henri <jhenri@csu.edu.au>

TOPIC A

CENSORSHIP AND THE INTERNET IN SCHOOLS:

PROBLEMS AND SOLUTIONS

CENSORSHIP: PLANNING A SAFE RIDE ON THE SUPERHIGHWAY

Daniel Ingvarson
Director, schools*NET*

What's happening? The dream of a global village with free communication and understanding is being overrun with pornography. Are our students at risk? Is the Internet the perfect place for perverts and paedophiles?

Censorship, it's a nasty word. Few like the idea of restricting information or being the moral judge of a generation. It's tricky ground. What's right for whom and when? We live in a multicultural society with widely diverse opinions and viewpoints. When does education and enlightenment stop and inappropriate access to potentially harmful information start? When does culture override information? When does explanation or instruction become invitation to try dangerous experimentation?

When you consider the media hype and focus on the 'porn' highway and the claims of massive hard core and child pornography, is this superhighway about to roll over our children?

WHAT IS OUT THERE?

Hands up all those who have looked for pornography on the Internet (many people have because of all the media attention on it). I thought I would find out. We have a composite of 27 years of Internet experience in our building and some of the best netsurfers around. So armed with keywords like nude, erotic, sex, bombs, and many more we set out on a 36 hour hunt for the dark side of the Internet. We searched over 11 million pages of the World Wide Web, gopher and FTP. We found 3136 sites which matched our keywords. These were made up of a vast array of sites, including: magazines, self-help pages, community information, and academic discussions. There were 45 indexes to other pornographic sites. These indexes proved to be very frustrating. On some of the lists more than 60% of the sites listed were either no longer available, required you to pay for the images, or just never responded. Of the others many were slow, and the pictures of poor quality and mainly of the nude titillation variety.

There was almost a sigh of relief when the first pictures of people having intercourse were uncovered -- one site with more than 12 hard core pictures. It was a number of hours till we found any more.

Out of the entire search only eight sites were found which had pictures which would be considered as hard core pornography -- four of these sites had fewer than five pictures.

There were a considerable number of sex shops and phone sex sites (which advertises traditional phone sex) -- these would describe products and occasionally have crude selling lines. Most, however, had few erotic images at the site. Some would provide you with titillation of one image and you would have to put in your credit card number to get any more pictures.

In total the number of sites which had considerable pornographic material freely available and easily accessible was less than 100. Out of 11,000,000, that's a percentage of 0.001.

SCHOOLS RESPONSIBILITIES

No one would suggest that a school would condone the distribution of pornographic material, nor would schools assist access to it. This leaves schools in the awkward position of allowing students access to the Internet where pornography is available, and have to control its access. On the one hand censorship is against the ethos of many schools and the Internet community in general, on the other, schools have a duty of care to students. If a school were openly allowing students to gain access to inappropriate material (whatever that may be) many parents and others in the school community would be concerned and upset, often blaming the access to the material directly on the teachers. Perhaps there is the possibility of parents pulling their students from the school. Whatever the case, it is clear that the potential for misunderstanding and blame could be easily blown out of proportion with this sensitive issue. There are four parties involved in dealing with censorship of the Internet. The school, its teachers, the students and their parents. A process must be developed which includes all these parties.

THE PROCESSES

The central responsibility lies with the school. Schools must decide before allowing unsupervised access to students, how they are going to keep all these parties informed of the potential issues and rules which have been established. There are different approaches. However, they all revolve around informing everyone involved of their responsibilities.

There is a need to inform parents and get their consent for their children to gain access. There is a need to build an acceptable use policy and to provide students with an 'Internet drivers licence'. These three documents have been developed and used in a number of schools around Australia and across the world.

ACCEPTABLE USE POLICIES

The Acceptable Use Policy (AUP) is the core of any approach to controlling access. It must encompass what is allowed, what is not, what is done and how. The basic tenets of an AUP are: use the Internet for school work only; follow etiquette and the parental consent form explains to parents how students will be using the Internet; the nature of some of the information available; and the process which students will be asked to follow. Some schools have the parental consent form which is signed by the parent and also counter signed by the student, this is then copied off the form and laminated to make a little card like a library card which becomes the student's Internet driver's licence.

It is important for schools to establish the rules associated with use of the Internet through a formal agreement with the students and their parents.

In looking at the various models in use around the world, certain common elements emerge. We have pulled together a list of the main features to be covered, and include some examples such as an introductory letter to parents from a Victorian high school, a policy taken from a US community high school, and one from a group project in Pittsburgh involving 75 schools.

Main Features of an Acceptable Use Policy (AUP)

1. An introductory letter to parents which explains the Internet, its expanding role, the free access to information, and then the need for an agreement on how it is expected to be used.

2. The policy should cover:
   - who is involved in the agreement;
   - what is considered to be inappropriate use of the Internet;
   - acceptance of personal responsibility for own behaviour on the Internet, and for reporting any misuse discovered in the course of use of the Net;
   - acceptance of access to the Net as a privilege not a right, with inappropriate use resulting in cancellation of the privilege;
   - an outline of the Net etiquette expected;
   - rules to follow for privacy, and security;
   - guidelines of what is acceptable to be published on the Internet; and
   - what to expect if the agreement is breached, of loss of access temporarily or permanently, or requirement of parents to purchase printer cartridges, etc.

3. There may be two agreements, one for the parents and one for students, couched in relevant language. Or, it may work to combine these with parents and students signing the one agreement.

An Example

The following is the Student Ethics Policy for the Common Knowledge: Pittsburgh project. It was developed by a group of teachers, administrators and students.

Subject: Student Ethics Policy

LETTER TO PARENT(S) OR GUARDIAN(S)

Dear Parent(s) or Guardian(s):

Your son or daughter will get access to a world-wide network called the Internet. The reason for using the Internet is to participate in a curriculum project developed by some of your child's teachers. Your son or daughter will reach this world-wide network through a computer account provided by the Common Knowledge: Pittsburgh (CK:P) project.

Common Knowledge: Pittsburgh is a research project funded by the National Science Foundation. The Pittsburgh Public Schools, the Pittsburgh Supercomputing Center, and the University of Pittsburgh are working together on CK:P.

The purpose of this letter is to give you information about the Student Ethics Policy that Common Knowledge: Pittsburgh will use. The policy is described on page 2.

We ask you to review this policy with your child and to sign the consent form. Your child's teacher has already discussed this policy with your son or daughter.

If you have any questions about the network curriculum activities, please call your child's teacher. If you would like more information about the Common Knowledge: Pittsburgh project, please call the CK:P Education office at 622-5930.

STUDENT ETHICS POLICY, GUIDELINES and PROHIBITIONS

PART ONE The Internet is a world-wide telecommunications network. There are hundreds of resources on the Internet. You will find libraries, government agencies, universities, discussion groups, software, technical information, as well as the 20 million people who are part of this world-wide network. Your student account lets you use these resources.

The purpose of your student account is to let you take part in the curriculum activities, at your school, supported by Common Knowledge: Pittsburgh.

PART TWO The Academic Integrity Policy is part of the Rules of Student Conduct. Item #12 of the Policy talks about Academic Dishonesty. While working on the Internet, you are expected to follow the Rules of Student Conduct and to not violate the Academic Dishonesty clause.

PART THREE Common Knowledge: Pittsburgh will monitor your use of network resources. Monitoring will include tracking the amount of time you spend using these resources, but will not require identifying you by name. Other evaluation activities - classroom observation and interviews - are covered in a separate consent form. (See University of Pittsburgh, Consent to Participate in a Study, attached)

PART FOUR You are expected to exercise responsible behaviour when on the network.

PART FIVE 1. Using someone else's network account is not acceptable. 2. Using your network account for non-school related activities is not acceptable. 3. Using

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unauthorised copies of commercial software is not acceptable. 4. Copying software provided by Common Knowledge: Pittsburgh is not acceptable (see District's Copyright Policy, attached).

PART SIX Violating the above guidelines and prohibitions will result in losing your network account.

STUDENT ETHICS POLICY CONSENT FORM

I have read the Student Ethics Policy and understand its contents. Any questions I have about the network curriculum activity will be answered by my teacher. Any questions I have concerning the Common Knowledge: Pittsburgh project will be answered by the CK:P Educational Staff (622-5930).

My signature below, and that of my parent(s) or guardian(s), means that I agree to follow the guidelines and prohibitions of the Student Ethics Policy as stated on page 2 - Student Ethics Policy Guidelines and Prohibitions.

Student's Signature: ______________________________

Name of Student: ______________________________

School: ______________________________

Grade: ______________________________

Parent(s) or Guardian(s) Signature: ________________

Name of Parent(s) or Guardian(s): ________________

Date: ______________________________

WWW Publishing Guidelines

Along with the school policy on who maintains school Web pages, a policy of not identifying or publishing information and pictures of students must be established. A story which brings home the significance of WWW publishing guidelines is when a 15 year old girl was approached by a 16 year old boy on the Internet and asked where she lived. The student refused to give out that information, but agreed to meet the boy in the park. She went along with a few friends and the 16 year old boy turned out to be a 50 year old man. This man had got his information on the girl from the school's WWW site. It had a picture of the girl and her email address. It is important to remember that the Internet is a two way street, your students can get access to information, however, the world can have access to your students, and if you are responsible for them it would be wise to ensure that they understand the real dangers of giving out personal information on the Internet.

Where can I get other examples of AUP's?

The K-12 archive at Rice University in the US has a large group of these policies. Try the URL <**gopher://riceinfo.rice.edu:1170/11/More/Acceptable**>. Or search for AUP.

CONTROLLING ACCESS

Blocking and filtering

Appearing in the market place are software tools which assist schools in controlling access to the Internet. These fall into three basic categories, keyword blocking, site filtering, site allowing. No access control software is perfect so they do not negate the need for an AUP, however, they can help by making access to certain sites much more difficult.

Net Nanny is an example of keyword blocking software. What it does is look for words like sex or bomb and if it finds an appropriate match it blocks access to that information. The strengths are ease of set-up and not having to know which sites contain the information beforehand. Its weakness is that keyword searching is rudimentary. If you are looking at an article on the issues facing the police in dealing with drugs or prosecution it could be blocked because of the keywords in the document. You can find out more about *Net Nanny* at <**http://www.netnanny.com**>.

Surfwatch is an example of site blocking software. It has a list of sites which are known to contain inappropriate material. If a student attempts to access that site the software will stop them. Its strengths are the list of inappropriate sites as updated by *Surfwatch*. The down side is that you have to pay for updates and you have little control over what gets blocked. More information on *Surfwatch* can be found at <**http://www.surfwatch.com Site**>.

CensorNet is a site allowing software. It blocks every site on the Internet unless you say that site is OK to access. This is the most restrictive type of blocking and there would be less chance of students gaining access to inappropriate sites this way, however, this also means that most new sites would also be blocked until individually sanctioned as OK by the teachers. More information can be found at <**http://www.ats.com.au/CensorNet**>.

All the above software is designed for the home market and is loaded onto each computer. Another approach is to have a server which connects all the computers in a school (see section on Connecting your school to the Internet) and which does the site blocking. One such product is *CensorMan*, this allows for simple maintenance of the access control from one point. For more information on *CensorMan* try <**http://www.schnet.edu.au /schnet/software.html**>.

GUIDELINES FOR SAFE INTERACTION

Probably the most useful thing that an adult can do for children concerning the Internet is teach them how to safely interact online. It is no different than teaching a child about looking both ways before crossing the street and not talking to strangers. Below are my guidelines for safe enjoyment.

- ***For children under a certain age (14 for instance) a parent must always be in the room while the computer is on.***

This is a good idea even for the simple reason of physical safety. These children are dealing with electrical equipment and could potentially hurt themselves or the computer through ordinary curiosity. For online interaction think of it as a responsibility equivalent to telling a child to always hold an adult's hand when crossing the street.

- ***Take the time to talk with your children about what they are experiencing online.***

When I was growing up both of my parents worked. Nevertheless, they always found time to speak with us about what we had been reading or watching on TV. This is invaluable for teaching children analytical thinking which will help them with their school work. It will also give you an idea of what they are getting into. It is important to keep these conversations uncritical and supportive, genuinely listen and be interested in their explorations. When you find they have come across material you disapprove of, make it an opportunity to explain your values rather than shaming your children for seeing something wrong. How better to safely prepare them for the world beyond school?

- ***Impress upon your children that they must not give out personal information such as their telephone number or address online.***

When making friends with people on the Internet the temptation to give out such details about yourself can be great. After all when you or your children feel they are benefiting from a relationship, it is only natural to want to extend that relationship. It is possible to do this safely, but giving out details online is not one of them.

- ***When meeting with online friends for the first time, children must always have an adult present.***

People who meet on BBSs (Bulletin Board Systems, the hobbyist equivalent of the Internet), mailing lists or UseNet newsgroups often organise get-togethers such as barbecues to meet one another. Upon occasion I will even meet with someone individually that I have enjoyed chatting with by email, but only with the added company of a trusted male friend. You may feel you know somebody by their words, but until you meet with them in person you can't know for sure how honest they have been. Group situations are preferable, such as a picnic, barbecue or party, though for young people such a first time gathering should still have the presence of a trusted adult.

- ***Warn children that they should not perform any mysterious computing commands they do not understand at the encouragement of others online.***

On IRC in particular a few people have discovered how to take over another person's computer with certain "/" commands and enjoy taking advantage of this. If children have a question about how to do something, they need to be able to ask a teacher or parent.

- ***The most basic rule for both adults and children when on the Internet: if you do not like what you are reading online, stop reading it.***

This rule extends to interaction on MUDs and IRC. Should children find themselves subjected to text that disturbs them, they need to feel empowered to simply remove themselves from the discussion. On MUDs if something is particularly disturbing, people can teleport from the space where they were experiencing difficulty or simply exit the game, then inform a wizard, arch wizard or god (the people who oversee the game) of the difficulty. These people can talk with the offender(s) and ask that they modify their behaviour or kick them off all together. Within IRC the command "/IGNORE(space) (nickname or user@host)" will block all messages from a particular person. In UseNet newsgroups it is easy enough to not bother viewing messages of a particular subject thread or by a particular person.

- ***Teach children to be respectful and tolerant of others online.***

It is very easy when we grow up in a single community to believe that the beliefs we pick up there are everyone's beliefs everywhere. This is not so, and becomes amply demonstrated when you experience the Internet, a place of worldwide diversity. The Internet will not stop being diverse, therefore to enjoy it you will need to learn how to listen and respond to people as respected equals. This does not mean you have to agree with them, but for successful long term interaction, to learn new things and expand one's horizons, such an approach will be important. Think twice before saying anything, honouring both yourself and others.

Daniel Ingvarson is the Director of *schoolsNET*,
an Internet Service Provider designed specifically for Victorian
schools. Daniel can be contacted via email at
<dan@victoria.schnet.edu.au>.

CENSORSHIP AND THE NEED TO DEVELOP POLICY

Phil Davison
Iroquois Ridge High School, Oakville, Ontario, Canada

Student responsibility is one of the corner stones of education. Providing opportunities for students to demonstrate the attitudes and skills that we are trying to inculcate in them requires us to take the risk of students disappointing us. At Iroquois Ridge High School in Oakville, Ontario this philosophy translates into our granting students full access to the Internet.

At our school we began this journey with a group of students and teachers discussing what the key issues were in regard to the use of computers and the Internet in computer labs. Rather than develop a list of all of the evils that students should never be exposed to, or expose themselves to, we opted to focus on the positive. We require that the students use the network 'responsibly' (our full policy on the use of computers in the school is available on our web site located at <**http://www.irhs.haltonbe.on.ca**>).

A grade 9 student surfing to the Playboy web site knows that such an action is as inappropriate as opening a copy of the magazine in class. On the other hand, a senior student researching an essay on censorship might have a legitimate need to search for information about racists on the Web, and might spend some time looking at the content of a white supremacist's page. The context of the use of the information is critical to how appropriate the information is for use in a school setting. The understanding and application of this concept is at the root of our policy. In requiring our students to be responsible in their use we are requiring them to examine their motivations and the consequences of their actions.

If, as a group, students were not acting responsibly, then Internet access would be cut off. But as long as the majority of students value the access, and respect the need for the expectation of responsibility then we will have a system that works.

On an individual basis there are students who make poor decisions and it is critical that these individuals be made accountable for their actions. To achieve this, the same group of students and staff who developed the policy of responsibility also developed a process for dealing with individuals who do not meet our expectations. A serious issue involving the misuse of the technology is brought before a panel of students and teachers who discuss the infraction, listen to the students and teachers involved, and make a decision as to the appropriate course of action. In the past, students have been reprimanded, had their use of computers suspended or revoked, been removed from computer based courses, and in one case suspended.

We believe at this school that the empowerment of students is a critical step in helping them to develop into responsible citizens. We present them with high expectations and work with them to meet those expectations. The development of our Internet access policy was really a process of outlining a further responsibility we expect our students to live up to. Ensuring that there are consequences for not meeting these expectations that are seen to be fairly applied further reinforces that these responsibilities are important. To date our students have been responsible users of the Internet and continue to enjoy the benefits of the connections it provides.

Phil Davison is the Information Technology Coordinator and an English Teacher at Iroquois Ridge High School, Oakville, Ontario in Canada. Phil can be contacted via email at <Phil_Davison@msn.com>.

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ARE YOU FEELING THE INTERNET BACKLASH?
OR
FAMILY FRIENDLY DIGITAL LIBRARIES AND BANNED URLS WEEK

Steve Cisler
Manager, Network Outreach,
Apple Computer, Inc., California, USA

I guess it was inevitable: a hydra-headed backlash against the Internet from many sectors: government, religious activists, nationalists, other librarians, and individual critics. However, it is growing in quantity, as is the positive hype in newspapers, television, and magazines.

The *Wall Street Journal* for January 25, 1996 published a front page article critical of the World Wide Web 'For some, the Web is just a slow crawl to a splattered cat', while the classified section of the same paper has two full pages of their growing 'Internet Directory'. The copy explaining the Web in the directory takes a somewhat more enthusiastic view than the front page article. Of course, they are trolling for advertising revenue, not looking for a new spin on the Internet phenomenon.

One critic, known to readers and librarians who have seen him at ALA or state library conferences is Cliff Stoll, author of the very popular *The Cuckoo's Egg* and more recently, *Silicon Snake Oil* wherein he debunks the Internet and the digital good life touted by other writers like Nicholas Negroponte and George Gilder. Many net users considered Stoll a turncoat for being so critical and sent him email to that effect. I caught up with Cliff at the November 1995 Hackers Conference at Lake Tahoe, and he was just as manic as ever, holding animated discussions on 'how to write a book' and his latest neighborhood hack - He built a radar gun, hooked it to his Mac to track the speeders in front of his house and took the printed graphs of the traffic patterns to the city planning folks in Berkeley. Result: speed bumps for his street. I was more interested in how his life had changed since *Silicon Snake Oil* which has a fairly extensive number of references to the uselessness of computers in libraries and schools, among other places. I asked him if he really had backed away from using computers and networks. No, he had merely cut down from six to eight hours a day to about an hour. It was clear he had been a very heavy user, and the book was his way of wrestling and perhaps conquering an addiction to UseNet, email, and the Internet in general.

In person, he is a lot more ambivalent about the views expressed before audiences or reporters, but his condemnation carried a lot of weight because he is so knowledgeable about computers (otherwise he would not be invited to the Hackers Conference).

The more dangerous opposition comes from journalists, many of them behind the learning curve, or those who catch a trend rather late and begin reporting on it belatedly. Few remember Joe Abernathy's article in the *Houston Chronicle* that sensationalized 'porno on the Internet' in 1990, <**http://www.eff.org/pub/CAF/library/library.porn.real**> and they want to write the story as if it is the latest big news. Frequently, they may call the library if they have a public access computer. In one case, they wanted the librarian to find the smut for them so they could write about it! Now that is a real challenge to the mission of the reference librarian: help the person who is specifically hoping to bring adverse attention to your library because of material somewhere on the Internet. The advice I have been giving people I address (or at least those who understand the Internet) is to take a journalist (or elected official) to lunch and let them know why you feel the Internet is a positive force. This is one way of counteracting some of the unbalanced reporting that is still showing up in articles about the Net. I believe that ALA should have a collection of short success stories to share with other libraries, with publicists and politicians. For a good example, the FARRNET collection of 51 stories from 50 states and the District of Columbia. You can still use gopher to take a look at the stories: <**gopher:// gopher.cni.org:70/11/cniftp/miscdocs/farnet**>.

Backlash has been increasing from different governments. Some see the Internet as yet another manifestation of Western technology and global cultural trends that weaken or fragment national cultures and contribute to the moral decay of their societies. At the extreme you have countries like Saudi Arabia which has the resources to wire up their country and give every bedouin a mobile device for communications, but they are still not on the Internet. They are quite worried about the kinds of information available to their citizens. When I lectured in Istanbul, Turkey, at IFLA, the Turks did not like a number of the Mediterranean area web sites that I chose to illustrate how the WWW can be used for religious and political propaganda purposes, but that was the point of my lecture.

In Germany, a prosecutor in Bavaria has compelled CompuServe to drop hundreds of UseNet discussion groups because of sexual content. This has not only affected German subscribers but others as well, until the company figures how to segment access in an appropriate way for a whole country. As we go to press, US web sites with Jewish holocaust revisionist literature and propaganda are being blocked by German Internet service providers. While revisionist material is legal in the United States, it is not in Germany.

Many countries in Asia have been building extensive data networks with the goal of bringing the Internet into homes and schools. When I was in Thailand in January 1995, the royal princess' use of email was covered in the English language papers. At the same time, the Thais, who genuinely love their royal family, were quite worried about outside criticism of Thai royalty, and about the constant linkage of Thailand with sex vacation tours. Singapore is always treated in the press as an Orwellian autocracy where the Net may run on time, but you have to watch what you say, do, or read. The truth is that Singapore is lagging behind the United States in repressive legislation to control the Internet.

At the 1995 Internet Society conference in Honolulu, I met Peng Hwa Ang, a lawyer from Singapore. We had been corresponding since 1994 after I sent him my paper on 'Protection and the Internet', and he had undertaken an Internet study for the National Computer Board in Singapore. As a lawyer and lecturer in mass communications, Ang made a number of interesting points in his lecture and his paper, 'Censorship and the Internet: A Singapore Perspective', at <**http://info.isoc.org:80/HMP/PAPER/132/abst.html**>, citing 'uninhibited' reporting about racial issues and the riots that followed, the government believes that censorship of the media is necessary. Singapore wants to be the telecommunications hub, not just for southeast Asia, but for the whole world, yet it also wants to control, among other things, the Internet even as it tries to spread access within the city-state.

Because of labor shortages they cannot afford to hire the number of human censors that would be required. At present there are different servers for the staff at the National University and the students. It is obvious they would want to extend this model to the general population, who could see some, but not all the information flowing through the Singapore node. In legal terms, Singapore has chosen to treat the Internet as a broadcast service and regulate it accordingly. And this trend is what was significant for us in the United States: view the Internet not as a digital equivalent of the world of publishing, book stores, libraries, and readers with First Amendment rights afforded to printed material, but as a broadcast network with performances, shows, sponsors, and much more government control that is tolerated by the relatively free print environment.

In February 1996, Congress passed the Telecommunications Act of 1996. Title V is known as 'The Communications Decency Act of 1996' and was opposed by many organizations such as ALA, Electronic Privacy Information Center (ALA's Judith Krug is on the advisory board) <**http://www.epic.org**>, and the Center for Democracy and Technology <**http://www.cdt.org/**>, and ad hoc groups that organized on the Net around this issue. It was backed by a number of groups including the Christian Coalition which, in May 1995, released its 'Contract with the American family' and specifically addressed the problem of pornography on the Internet. This was one of the motivating forces behind my talk on 'Children and the Internet' at ALA last summer. I suggested that librarians take time to explore and be familiar with the material that is still relatively accessible and not just say they can't find the objectionable material. It's there, but there has been considerable debate about how much, whether it's harmful, and what should be done as more schools are hooking into the Net.

The bill's author was Senator Exon of Nebraska who admitted he did not know much about computers or the Internet, and many critics of the bill say that much of the problems stem from the legislators' ignorance and the heavy influence of the Christian right. The full text of the bill and the section is available many places, but I recommend the EPIC site because it has related material of interest to librarians. The relevant sections are about 32 kb long. It begins with a description of a cybersmut criminal:

> ...whoever initiates the transmission of, any comment, request, suggestion, proposal, image, or other communication which is obscene, lewd, lascivious, filthy, or indecent, with intent to annoy, abuse, threaten, or harass another person...

Now, just days after the passage of the bill, reaction has been swift. Opponents are pushing for test cases in courts, acts of online mourning (making the site's web pages with a black background and white text), and wide use of what in radio broadcasting would be deemed obscene language.

In the other camp we have a group called Oklahomans for Children and Families (OCAF) posting a 100kb guide for the public and law enforcement personnel on how to stop pornography on the Internet. For a copy send an email message to **<noporn@mailback.com>** with no subject and no body. The ascii file will be mailed to you. By the time you read this I'm sure it will be on a number of web sites as well. Try searching under OCAF in **<http://altavista.digital.com/>**. OCAF's focus is on the local Internet Service Provider which in a few cases may even be the local library, but because of the access points available in many university and public libraries, readers should be aware that OCAF sympathizers may use the information in this document to challenge the service you are providing to citizens and students. The OCAF document contains basic information on what they consider illegal, how some basic Internet tools work, and the methods they recommend to resolve what they see as a problem. I suppose that if you pass muster, you might be designated a Family Friendly Digital Library. If you don't, you can start your own exhibit for Banned URLs Week.

Undoubtedly, ALA lawyers, as well as others representing your library, will be scrutinizing the bill and planning what course to follow. Some online activists are planning test cases in the hopes of having the anti-porno sections invalidated in court. Currently, there is a lively discussion of what course Internet Service Providers should take in the light of OCAF's aggressive action.

The World Wide Web community has been working on a technical solution to the problem of controversial material on the Internet. Much of the activity started when the Internet community realized the threat from the Exon amendment many months ago. Whether this has much relevance in the aftermath of the restrictive legislation that will become law remains to be seen. The WWW Consortium (W3C) includes a working group called PICS (Platform for Internet Content Selection), whose goal is 'to develop an easy-to-use Internet content labeling and selection platform that empowers people worldwide to selectively control online content they receive through personal computers' at <**http://www.w3.org/pub/WWW/PICS/**>. It is being billed as a viewpoint-neutral, voluntary solution for the labeling of content on the Internet. Because the Internet has so many different kinds and grades of information and data, many people are looking for rating systems as well as easy-to-use search tools as a means of getting what they need from file servers and web sites around the world. It is time for librarians to take a new look at the role of rating schemes in the networked world where libraries are knowledgeable but relatively uninfluential players. To embrace rating systems as a complete solution is no more realistic than to condemn them as just another form of censorship, but it is important for our profession to be included in the ongoing and rapidly changing discussion.

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DEVELOPING A SCHOOL INTERNET MANAGEMENT PLAN

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Welcome to my virtual presentation. I'd actually rather be in some other virtual room discussing something interesting like "Home-School Links" or "Cooperative Planning & Teaching". But since we're "here" we should address the topic in hand.

The topic I was given for this paper was "Developing a School Management Plan for dealing with controversial material on the Internet". I have been put in the "Censorship and the Internet in Schools" stream because last year CIRCIT prepared a paper for the (soon to be non-existent) Schools Council on *Management of Student Access to Controversial Material on the Internet*. You can read the Executive Summary online and order the full report from the Australian Government Publishing Service (AGPS) - details are available from the project home page at <**http://teloz.latrobe.edu.au/circit/schome.html**>.

The issue of controversial material is a real one (if only because the media has made it so) and schools do need to think about and plan how they will deal with it. But don't whatever you do, treat it as the main issue you have to deal with, and in fact don't deal with it as a separate issue, it is one aspect of management of student access.

LEGAL ENVIRONMENT

Regulation of Internet content is a hot political issue. In Australia, the major current initiatives are enquiry by the Australian Broadcasting Authority and proposed NSW legislation. If you want to find out more about these issues, a good starting point is Roger Clark's 'Regulating the Net' page at <**http://www.anu.edu.au/people/Roger.Clarke/II/Regn**>.

Existing legislation and proposed new government action will set a general context and minimum standards of regulation which will apply to everyone, but obviously many schools will feel the need to take additional action to manage student access to the Internet and particular types of content.

WAYS OF MANAGING ACCESS

The Schools Council research identified two main categories of ways in which schools managed student access to the Internet: organisational and technological.

Organisational means include:

- supervision
- signing a register before using a computer with Internet access
- Acceptable Use Policies
- student contracts
- working with parents to develop shared responsibility
- placing reliance on student responsibility.

Technological mechanisms include:

- vetting material (eg incoming and outgoing email)
- using a specialist service provider who limits access to certain sites or newsgroups
- restricting access to particular Internet tools (eg IRC, newsgroups)
- blocking access to specific sites (either at school or at the service provider level)
- downloading specific Internet information for student access (as opposed to allowing students direct access to the Internet)
- keeping log files and running random checks of sites students have accessed

- using filter software (these programs have not been widely used in schools and are generally not regarded as sufficiently reliable for use as the main mechanism to control access to inappropriate material.

Different schools use different combinations of these mechanisms, and schools interviewed were generally happy with the arrangements they had in place (which in some cases involved only organisational arrangements).

So you can see that there is quite a range of mechanisms available, but you will have to make your own decisions about which of these suit the requirements of your school.

WHERE TO START?

You can't really learn about the Internet by reading about it, you have to do it. So an important part of developing a Management Plan is for a range of people in the school to have had some time experimenting with and exploring the Internet. There are a number of ways you can do this:

- Put a computer with a dialup Internet account in the library and/or staff room. Run hands on familiarisation sessions for staff and let them explore.
- Give staff with home computers access to a dial up account, and perhaps have a modem loan scheme so they can explore at leisure.
- Purchase a portable computer and modem which can be loaned out to staff.
- Visit other schools that are using the Internet extensively (but be sensitive to the many demands that are placed on people in these schools).
- Make sure students are involved. Some students may well be a source of technical expertise you can draw on. Many students will have ideas about the way the Internet can be used positively in areas of interest to them.
- Visit sites on the Internet which give examples of the ways the Internet can be used in schools. Australian sites include:
    - the Victorian DoSE's ***SoFWeb***
      <http://www.dse.vic.gov.au>
    - the ***ACT Education Information Network (ACTEIN)***
      <http://freenet.actein.edu.au/acteinnew/actein.html>
    - ***OzKidz*** from Ipswich in Queensland
      <http://www.gil.com.au/ozkidz/>
    - ***oz-TeacherNet***
      <http://owl.qut.edu.au/oz-teachernet/>
    - For overseas sources try ***Web 66*** at **<http://web66.coled.umn.edu/>** and the Schools or Education section of various Internet Directories - for example the ***Yahoo K-12 Page*** at **<http://www.yahoo.com/Education/ K_12/>**.
- Run parent Internet familiarisation nights. Your local computer supplier may be able to arrange this - both Microsoft and Apple have presentations available. But make sure it's not just a sales pitch and that parents get a chance to try for themselves.

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WHAT SHOULD BE IN A PLAN?

Make sure all subject areas in the school are involved. The Internet is a general tool, it should not be seen as related fundamentally to the technology and computer studies areas.

Issues you will need to consider in developing a Management Plan include:

- Do you wish to use an Internet Service Provider who will provide some level of management of what content can be accessed?
- Do you want to restrict access to certain Internet tools (eg Internet Relay Chat)?
- Where should Internet access be available? In all classrooms, in the library, in a multimedia resource centre? (But *not* in the computer room if the room is seen as primarily for teaching about computers.)
- Who has access to email? Are there separate accounts for individual teachers? For grade levels? For individual students?
- What organisational arrangement will govern the sending and receipt of email by students?
- Is the school planning to publish material on the World Wide Web? If so how will this material be authorised?
- Should students be allowed unsupervised access to the Internet? At what age? As an essential part of their activities or as a privilege which can be withdrawn?
- Can parent veto their children having access to the Internet?

CONCLUSION

Management of student access to the Internet is not fundamentally a technical issue (although you should familiarise yourself with the basic issues around the technology).

The Internet is a tool which you can use. It is a powerful tool, and one which will, over time, change the way you view teaching and learning. But it is still a tool and you should decide how you want to use its potential in the context of your school's educational philosophy and approach.

Disclaimer
The views expressed in this paper are the personal views of the author. They are not an official statement of a CIRCIT position. They are informed by (among many things) the research CIRCIT did for the Schools Council, but they are not intended to be a summary of that research, and are certainly not views endorsed by the Schools Council.

At the time of writing this paper, **Jack Gilding** was the Project Officer for CIRCIT in Victoria, Australia. The CIRCIT Home Page can be located at<**http://teloz.latrobe.edu.au/circit/**> and the Schools Council Project can be located at <**http://teloz.latrobe.edu.au/circit/schome.html**>.

MANAGEMENT OF STUDENT ACCESS TO THE INTERNET: ISSUES AND RESPONSIBILITIES *

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INTRODUCTION

This paper will examine some of the major management issues relating to the provision of Internet access to students in schools. In particular, the role of the teacher librarian in relation to student access to the Internet (including such issues as censorship, the use of 'filtering' software and the adoption of 'Acceptable Use Policies') will be addressed.

The role of the teacher librarian in a networked information environment differs radically from the traditional role to which school library users have become so accustomed. The fundamental role of the teacher librarian in a networked school should not change from meeting the information needs of users and facilitating information literacy development. What will change is how information services are provided, the nature of the collaborations between teachers and teacher librarians and how information as a strategic resource in schools is managed. Like information technology literate classroom teachers, teacher librarians will increasingly become the 'guide on the side' rather than the 'sage on the stage'. At the same time, the function of the school library will also shift - from 'just in case' storehouses of information to 'just in time' suppliers of information.

As part of the re-thinking associated with the changing role of the teacher librarian, some commentators have foreshadowed a change of nomenclature from 'teacher librarian' with responsibility for the 'school library program' to, for example, 'information services facilitator' or 'director of information services' with whole school responsibility for an 'information services centre' or 'information services unit', or similar (Barron, 1995; Hay and Kallenberger, 1996). The reasons for this shift in emphasis vary between its proponents but ostensibly the basis of such a move lies in the need for 21st century schools (like other information-based organisations) to be more efficient managers of information.

For example, Hay and Kallenberger (1996) caution that the creation of the position 'director of information services' will result not merely from combining the roles of teacher librarian and computer coordinator into one position of responsibility. In an 'informed school' such a view is too narrow and does not take into account the need for management of information on a whole-school basis. A teacher librarian or information technology studies coordinator might be part of the 'information services unit' along with others employed on either a full-time or part-time basis, eg. programmer, editor, computer technician, library technician, and so on - the mix would depend on the circumstances of the individual school. In fact, their model suggests that a complete re-think of existing school structures and management practices is long overdue.

STUDENT USE OF THE INTERNET

One of the main problems that members of many school communities envisage with Internet access is that of student access to 'unsavoury' information, particularly pornographic and violent material. A second, perhaps even more disturbing problem relates to personal security of student users on the Internet. The potential for paedophiles, for example, to 'meet' potential victims online in order to arrange real-time meetings is of particular concern. While such concerns are obviously valid, they need to be kept in perspective. Incidents of this nature sell newspapers and boost television news/current affairs ratings. We can be certain that the media relish these kinds of stories and if coverage of them is not level-headed and responsible, the resultant media hype can be very damaging to proponents of Internet access for schools.

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* Note: This paper is a revised and updated version of the original paper presented at VC'96.

In short, it should be understood that it is an unfortunate fact of life that many of these incidents occur on a much more regular basis in 'real-life'. In most communities exposure to pornographic and violent images, for example, is only as far away as the nearest newstand and video outlet. The degree of 'interactivity' accorded by the Internet is nothing like that available from television, video or even telephone. In this regard, the soon to be released joint report from the Australian Broadcasting Authority and the Office of Film and Literature Classification (1996) should be of interest. The report will make recommendations about the desirability of an Australian 'code of practice' for online services. Also known as the 'Online Services Investigation', the report will be made available on the ABA Home Page <**http://www.dca.gov.au/aba/hpcov.htm**>.

There is a common misconception about the amount of 'controversial material' on the Internet. Spalding, Gilding and Patrick (1996) found that few schools reported incidents of students stumbling across pornography and the like. Ingvarson (1996) and his colleagues at schoolsNet, a Melbourne-based Internet Service Provider (ISP) specialising in education, set out to find out how much potentially 'controversial material' was really out there:

> Hands up all those who have looked for pornography on the Internet (many people have because of all the media attention on it). I thought I would find out. We have 27 years of Internet experience in our building and some of the best netsurfers around. So armed with keywords like nude, erotic, sex, bombs, and many more we set out on a 36 hour hunt for the dark side of the Internet. We searched over 11 million pages of the World Wide Web, gopher and FTP. We found 3136 sites which matched our keywords. These were made up of a vast array or sites, including: magazines, self-help pages, community information, and academic discussions. There were 45 indexes to other pornographic sites. These indexes proved to be very frustrating. On some of the lists more than 60% of the sites listed were either no longer available, required you to pay for the images, or just never responded. Of the others many were slow, and the pictures of poor quality and mainly of the nude titillation variety.
>
> There was almost a sigh of relief when the first pictures of people having intercourse were uncovered -- one site with more than 12 hard core pictures. It was a number of hours till we found any more.
>
> Out of the entire search only eight sites were found which had pictures which would be considered as hard core pornography -- four of these sites had less than five pictures.
>
> There were a considerable number of sex shops and phone sex sites (which advertise traditional phone sex) -- these would describe products and occasionally have crude selling lines. Most, however, had few erotic images at the site. Some would provide you with titillation of one image and you would have to put in your credit card number to get any more pictures.
>
> In total the number of sites which had considerable pornographic material freely available and easily accessible was less than 100. Out of 11,000,000, that's a percentage of 0.001.

MANAGEMENT OF STUDENT ACCESS

There are a number of different techniques for managing student access to the Internet. In their study of selected Australian schools, Spalding, Gilding and Patrick (1996: xii-ix) identified the following 'wide variety of mechanisms and arrangements to manage student access to the Internet':

- organisational arrangements
  - supervision;
  - signing a register before using a computer with Internet access;

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  - Acceptable Use Policies (AUPs);
  - student contracts;
  - working with parents to develop shared responsibility; and
  - placing reliance on student responsibility.

- technological mechanisms
  - vetting material (eg. incoming and outgoing email);
  - using a specialist service provider who limits access to certain sites or newsgroups;
  - restricting access to particular Internet tools (eg. Internet Relay Chat, newsgroups);
  - blocking access to specific sites (either at school or service provider level);
  - downloading specific Internet information for student access (as opposed to allowing students direct access to the Internet);
  - keeping log files and running random checks of sites students have accessed; and
  - using filter software (these programs are relatively recent, have not been widely used in schools and are generally not regarded as sufficiently reliable for use as the main mechanism to control access to inappropriate material).

This paper will focus on two techniques which are attracting the attention of schools: 'Filtering' software and Acceptable Use Policies (AUPs).

Filtering software

There are a number of software packages specifically designed to limit student access to potentially controversial material on the Internet. Producers of software such as Surfwatch, CyberPatrol, Net Nanny and the like claim that their software can be customised to 'filter' out objectionable material. The extent to which this is achieved is dependent on a number of factors including the techniques used to 'block' or exclude material, how active users are in recommending 'unsavoury' sites (most producers have a reporting mechanism included as part of their Home Page on the WWW), how up-to-date the list of excluded sites is and how clever the maintainers of blocked sites are in getting around the software. Allison and Baxter (1995) consider this use of intelligent software to filter information a 'technological fix' and question the feasibility of software filters in the absence of a broad-based system of Internet content classification:

> Reliable, intelligent software filters are technologically infeasible. Although one can envisage crude filters for text, based on keywords, general filters for other digital materials are infeasible. For example, the required sophistication for image processing software to identify offensive digitised video images is not likely to be available in the foreseeable future. The same applies to audio. Intelligent software filters are at best a partial solution. The coming multimedia age will make them an increasingly less complete solution.

Commercial software producers have not been deterred, however, and the number of packages on the market is on the increase. Some of the more popular packages include:

SurfWatch from Spyglass Inc.	**<http://www.surfwatch.com>**
Net Nanny from Trove Investment Corp.	**<http://www.netnanny.com>**
Cyber Patrol from Microsystems Software	**<http://www.microsys.com>**
CensorNet from ATS International Pty Ltd	**<http://www.ats.com.au>**
CYBERSitter from Solid Oak Software	**<http://www.rain.org/~solidoak>**
Net Shepherd from Net Shepherd Inc.	**<http://www.shepherd.net>**

The titles chosen for these pieces of software conjur up protective images. This is not a coincidence! Terms like 'nanny', sitter', 'shepherd' and 'patrol' suggest that guidance, advice and even comfort may be forthcoming for the helpless child lost along some off-ramp of the electronic superhighway. This may be why these producers have had so much trouble trying to shake off accusations that their products actually constitute a form of online censorship: as Williams and Dillon (1993) point out, the idea of 'protection' is one of the main, if not the main, motivation of would-be censors of school library materials. For a more detailed discussion of the limitations of intelligent software filters in the school and home, consult McKenzie (1996).

Internet Service Providers (ISPs) can also 'limit access' to selected sites on an ongoing basis. In Australia, schoolsNET, for example, uses software called CensorMan to block access to sites in the schools it services. Ingvarson (1995) points out that the decision to block one or more sites is a school decision and not a decision of the ISP. ISPs are merely providing a service to schools. Not only is it impossible for ISPs to guarantee blockage of potentially controversial sites for schools due to the sheer number of new sites appearing every day, it is also difficult to predict the types of sites schools want blocked. For example, some seemingly innocuous sites such as the NBA Home Page have been the subject of requests for blocking by schools because of their 'potential for wasting valuable student time online'.

Acceptable Use Policies (AUPs)

In addition to the use of intelligent software filters, teacher librarians and other staff have attempted various means of 'filtering' student access. The most common of these methods is supervision of access. Clearly this is not a practical solution! Another idea is to establish a menu of, for example, servers from which students can select desired 'pathways'. Specialist educational providers of access to the Internet may provide a list of 'bookmarks' on the World Wide Web which they recommend as educationally useful. This strategy is also used by some schools. Another method is to 'download' a selection of (potentially) useful sites for a designated need, eg. an assignment topic and have students conduct their searches of those sites. Of course, some of these measures are fanciful as students will quickly work out how to navigate their way to other parts of the Internet.

One of the most popular options for management of student access to the Internet is the adoption of an Acceptable use Policy (AUP) which Rumbagh (1994) defines as a:

> ...written agreement, signed by students, their parents, and teachers, outlining the terms and conditions of Internet use. It specifically sets out acceptable uses, rules of online behavior, and access privileges. Also covered are penalties for violations of the policy, including security violations and vandalism of the system. Anyone using a school's Internet connection should be required to sign an AUP, and know that it will be kept on file as a legal, binding document.

For some readers, the foregoing description may be a little over the top. As Spalding, Gilding and Patrick (1996) report, however, many Australian schools are moving toward this course of action. Rumbagh goes on to contend that the 'school solicitor' may need to scrutinise any AUP in the drafting stage. While such a suggestion may reflect the litigious nature of US society (school policies including selection policies for school libraries are signed 'legal' documents in many US school districts), most existing Australian policies are less formal and are clearly designed to apportion *responsibility* for using the Internet in schools. The bottom line is that the responsibility for allowing access should rest with students and/or their parents and not with the ISP, educational authority, school or individual staff members. In fact, Spalding, Gilding and Patrick (1996: 32) warn that even systems based on parental permission are really short-term measures:

> The notion of parental permission, however, will become increasingly difficult as more students use the facility. The students' who do not have parents' permission will become disadvantaged in terms of restricted access to a resource. Some schools believe this is, in fact, an interim phase and in due course it will not be realistic to have a situation where some students, at the discretion of their parents, will be denied access. It will be more a question of parents understanding what is being offered, what particular controls that particular school has in place and feeling reassured about the capacity of their child to

handle the consequences of an inadvertent exposure to controversial material. The bottom line, as one school put it, is that parents may choose to send their children to another school.

In the teacher librarianship strand of this conference the consensus of opinion among participants in the 'Censorship and the Internet: Problems and Solutions' topic has supported such a view: responsibility for searching the Internet should lie with students and/or parents. An 'information session' for parents about using the Internet as a research tool was a widely accepted strategy for alleviating actual or potential concerns of parents. Davison (1996) describes an Internet access/management strategy for secondary schools where the onus of responsibility for sites visited lay with the individual student who is accountable for his/her actions. Similar to many other schools, there are penalties for infringers. However, this model addresses one of the main criticisms of Internet access/management in many schools - lack of student involvement, eg. in the formulation of AUPs or in the determination of appropriate penalties for infringements.

Does an 'Acceptable Use Policy' (AUP) differ from a School Policy for student access to the Internet? The following suggestions have been adapted from McKenzie (1995).

- In basic terms, AUPs help to define acceptable behaviors by student and staff users of information systems, while school policies take the matter much further. AUPs were designed to satisfy the regional networks that some schools join when driving onto the Electronic Highway.

- School policies also describe acceptable student behaviors, echoing the content of AUPs, but they tie those standards to the school's policies on student rights and responsibilities, drawing connections, for example, with the school policy and procedures on locker searches and a student's rights to privacy and freedom to read. They tie consequences and procedures to those already in effect.

- In addition, a sound school policy takes a position on access to potentially controversial information and relates these new information sources to pre-existing policies on curriculum and the selection of curriculum materials, outlining clear expectations for staff supervising student use.

- Finally, a comprehensive set of policies would also outline staff responsibilities and rights as employees using these utilities.

Hanson (1994) offers the following 'Acceptable Use (Ethics) Agreements' Checklist' as a guide for formulating policy at the school level:

- confirm student has read it and understands it
- may or may not include parent permission
- use of the Internet is a privilege, not a right
- respect for limited network resources
- proper account management (quotas)
- nothing is really private
- remain on distant systems only as long as you need to
- adhere to time restrictions of archive sites
- check for and adhere to copying and licensing agreements
- lurk on a listserver or newsgroup before posting
- insert your address at the bottom of messages
- be careful with sarcasm and humour
- learn the difference between a listserv's admin and discussion addresses
- rarely reply to the list, opt for replying to the poster
- never share your account with anyone
- use a cryptic password
- be alert for unsuccessful login attempts and last login flags.

Sources of policies

There are a number of collections of sample school policies for student access to the Internet and AUPs for libraries. Some of the most well known include (in no particular order):

1. *AskERIC*
   <http://ericir.syr.edu/Projects/ICONN/CurriculumConnections.html>
   Look under Intellectual Freedom and Acceptable Use Policy.

2. *Texas Education Network (TENET)*
   <http://www.tenet.edu/tenet-info/accept.html>
   Look under TENET Acceptable Use Policy.

3. *Classroom Connect*
   <ftp://ftp.classroom.net/wentworth/Classroom-Connect/aup-faq.txt>
   Consists of FAQs (Frequently Asked Questions) about AUPs as well as suggested sources. Periodically updated and made available via email.

4. *Acceptable Use Policies (Rice University)*
   <http://www.rice.edu/armadillo/acceptable.html> and
   <gopher://riceinfo.rice.edu:1170/11/More/Acceptable>
   Includes a wide range of sample AUPs and discussions about Internet censorship.

5. *Bellingham Public Schools*
   <http://www.bham.wednet.edu/policies.htm>
   Look under Board Policies then under sub-division Internet.

6. *The Internet Advocate*
   <http://silver.ucs.indiana.edu/~lchampel/netadv.htm>
   Look under Introduction then under sub-division Develop an Acceptable Use Policy.

7. *K-12 Acceptable Use Policies*
   <http://www.erewon.com/k12aup/>
   Includes templates for developing AUPs.

8. *Southern Regional Acceptable Computer Use Policy*
   <http://150.216.8.1/schofed/lset/AUP.HTM>
   Look under Acceptable Computer Use Policy.

9. *Arkansas Public School Computer Network*
   <http://www.k12.ar.us/ecc.htm>
   Look under Current Local (Arkansas) Information then sub-division Network Appropriate Use Guidelines (PDF File).

10. *Karen's Kitchen: The Freedom Pages*
    <http://www.intac.com/~kgs/freedom/policies>
    Look under Sample Library Policies.

11. *California Department of Education Goldmine*
    <http://goldmine.cde.ca.gov/WWW/Technology/Ed_Tech/Policy.html>
    CDE's Acceptable Use Policy and District Guidelines.

12. *Avoiding Ethical Potholes: Acceptable Use Policies*
    <http://www.ucalgary.ca/~mueller/aup.html>
    Includes a range of sample AUPs, links to other collections of AUPs and related sites.

Of course, URLs can and do change so it is wise to re-check your bookmarks from time to time. The preceding URLs were accurate as of June 28, 1996. Comments about and suggestions for additions to this list and the list of available intelligent software filters are most welcome.

CONCLUSION

The whole question of student access to the Internet is a perplexing issue. Media 'hype' has certainly fuelled the debate over access to the Internet for school-age children and sown the seeds of doubt in the minds of some members of school communities about making access to the Internet a reality/priority. For teachers and teacher librarians, there are a range of crucial issues to do with equity of access and effective harnessing of the Internet for teaching and learning, to consider. As part of the school's information technology team, the teacher librarian/information specialist has a pivotal role to play in making access to, and effective use of, this valuable resource a reality for all members of the 'information literate school community'. .

REFERENCES

Allison, L. and Baxter, R. (1995) *Protecting our innocents.* Melbourne: Department of Computer Science, Monash University. (Technical Report 95/224)

Barron, D.D. (1995) Information services facilitators to replace school library media specialists. *School Library Media Activities Monthly.* 11, 8, 48-50.

Davison, P. (1996) Censorship and the need to develop policy. Paper presented at *Schooling and the Information Superhighway Virtual Conference.* June 3-9.

Hanson, W. (1994, November 15) RE: Student access to the Internet. School Library Media & Network Communications [Online]. Available email: **<listserv@listserv.syr.edu>**

Hay, L. and Kallenberger, N. (1996) The future role of the school information services unit in the teaching/learning process. Paper presented at *Electronic Networking and Australasia's Schools,* Sydney, April 11-13. Available WWW: **<http://www.itec.com.edu>**

Ingvarson, D. (1995) Censoring the Internet: the practicalities. Paper presented at *The Information Highway and the Nation's Schools* Conference, Sydney, June 10.

Ingvarson, D. (1996) Planning a safe ride on the Superhighway. Paper presented at *Schooling and the Information Superhighway Virtual Conference.* June 3-9.

McKenzie, J. (1995, 9 May) FNO May 95: Board policies for Internet. School Library Media & Network Communications [Online]. Available email: **<listserv@listserv.syr.edu>**

McKenzie, J. (1996, March-April) From Now On: A Monthly Electronic Commentary on Educational Technology Issues. Available WWW: **<http://www.pacificrim.net/~mckenzie>**

Rumbagh, S. (1994) Acceptable use policies: defining what's allowed online, and what's not. Classroom Connect, Wentworth Worldwide Media. Available WWW: **<http://www.classroom.net>**

Spalding, B., Gilding, J., and Patrick, K. (1996) *Management of student access to controversial material on the Internet.* Canberra: Australian Government Publishing Service.

Williams, C.L. and Dillon. K. (1993) *Brought to book: Censorship and School Libraries in Australia.* Port Melbourne, Vic. : ALIA Press/DW Thorpe.

APPENDIX

Related Sites

PICS (Platform for Internet Content Selection)
<http://www.w3.org/pub/WWW/PICS>

'PICS, the Platform for Internet Content Selection, is designed to enable parents, teachers, or administrators to block access from their computers to certain Internet resources, without censoring what is distributed to other sites. It draws on two unique features of the Internet.

First, publishing is instantaneous, world-wide, and very inexpensive, so it is easy to publish rating and advisory labels. Labels and ratings already help consumers choose many products, from movies to cars to computers. Such labels are provided by the producers or by independent third parties, such as consumer magazines. Similarly, labels for Internet resources could help users to select interesting, high-quality materials and could help supervisors to block access to inappropriate ones.

Second, access to Internet resources is mediated by computers that can process far more labels than any person could. Thus, parents, teachers, and other supervisors need only configure software to selectively block access to resources based on the rating labels; they need not personally read them.

In August 1995, representatives from twenty-three companies and organizations gathered under the auspices of MIT's World Wide Web Consortium to discuss the need for content labeling, especially for use with selection software. Faced with the obvious desire of some parents and other users to control what they or their children have access to, the companies felt that such tools were important to the continued growth of Internet and on-line service use in homes, schools, and businesses. The attendees also hoped to offer a positive alternative to US government regulation of on-line content, which would dampen free speech. The group decided to develop a technical infrastructure that would support label distribution and selection software. PICS, the fruit of the group's work, establishes conventions for label formats and distribution methods, without dictating a labeling vocabulary or who should pay attention to which labels. It is analogous to specifying where on a package a label should appear, and in what font it should be printed, without specifying what it should say'.

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TOPIC B

HOT SPOTS ON THE WEB FOR TEACHER LIBRARIANS:

A SELECTION OF RECOMMENDED WEB SITES FOR TLS TO VISIT

JUST DO IT: A GUIDE TO GETTING OUT THERE AND DOING IT YOURSELF

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This site/document (I'm aware of the ambiguity of calling this a 'paper') is divided into four easy sections: 1. Finding out; 2. Reporting back; 3. Doing it yourself; and 4. Doing it at home.

1. FINDING OUT

We all have our favourite sites. My favourite sites are generally those which provide me with information I can't get anywhere else (eg. lists of fan clubs for a journalist), up to the moment information (eg. newspaper sites), convenient access points (eg. QANTAS or TELSTRA white pages) or things I want to know about, eg. how to... Some of these are obvious and well known sites so here I will stick to the newspaper reference sites. These are of use to students and TLs for a number of reasons. Generally newspaper sites are updated regularly and are great for tapping into news on other countries (even in other languages). They may also have an education page like *The Age* because many of the users are students trying to find current information sources.

My favourites here are ***The Age Newspaper*** at <**http://www.theage.com.au**>, and ***Newslink*** at <**http://www.newslink.org/**> a pretty comprehensive list of international newspaper and magazine sites.

2. REPORTING BACK

We are all now familiar with the kind of resources we can get from the Net in its many forms. I love to quote things I heard in email, in fact I use email quite a bit in fishing for information to write articles. It has been evident for some time that teachers and librarians are becoming concerned that students not only quote their sources, but quote them properly. Much discussion has taken place about this. Some interesting pointers and resources have been found/put together by people such as Chris Bigum at Deakin in Victoria and Jill Abell of Elizabeth College in Tasmania, eg. Abell, Jill. (1996). 'Guidelines for citing references and electronic sources of information', *ACCESS* 10 (2), May: 40. Jill has also put this information on her school's home page ***Elizabeth College Guidelines for citing electronic references and sources of information*** at <**http://www.eliz.tased.edu.au/refs.htm**>.

Other sites worth checking on this topic include:

- ***Thinking Critically about WWW resources***, by Esther Grassian of UCLA (part of training course for Internet users) at <**http://www.ucla.edu/campus/computing/bruinonline/trainers/critical.htm**>;
- ***MLA-Style Citations of Electronic Sources***, by Janice R. Walker at <**http://www.cas.usf.edu/english/walker/mla.html**>;
- ***Citation Style for Internet Sources***, by Mark Wainwright at <**http://www.cl.cam.ac.uk/users/maw13/ citation.html**>; and
- ***How Do You Cite URL's in a Bibliography?*** by Jeff Beckleheimer <**http://www.nrlssc.navy.mil/meta/bibliography.html**>.

3. DOING IT YOURSELF

So you want to learn HTML and put a home page together, teach students how to put a home page together, get a library home page up, miss all your favourite evening TV whilst you become a publisher. It's really not that hard. You don't need to do a course. Nobody needs to show you how. You can do it yourself by referring to one of the many 'do it yourself' sites on the Net.

My favourite is ***A beginners guide to HTML*** at <**http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer. html**>. Other sites look at some of the conventions and stylistic issues, for example, the ***Composing good HTML*** site at <**http://www.cs.cmu.edu/~tilt/cgh/**>.

The best and easiest thing to do, however, is to go to the Hotdog site. Hotdog is a simple to use Web Editing programme designed in Australia which really means that you never really need to learn HTML at all. You can down load a sample version from their site at <**http://www.anawave.com/hotdog.html4**>.

4. DOING IT AT HOME

Now that you have your page up, why not consider offering resources internally within your organisation using the resources of the Internet. Whatever do I mean? I'm talking about an INTRA-net. Intranets are being used by lots of organisations and networked schools to distribute electronically held information, eg. internal directory, school handbook, internal databases etc.

For more about what an intranet is and how you can use it go to <**http://www.intra.net.au/**>. This site belongs to a company which sets up Intranets for other people and this is an advertisement of their service but has clear explanations and some examples, eg. the 3M site. It also has a long list of references and some on-line articles about Intranets. My favourite intranet is that of CSIRO. This shows how a national company can take advantage of the Internet to tap into external as well as internal company resources from anywhere in the country. I can tap into their home page (which has a great emphasis on library resources incidentally) and yet there is a local area for CSIRO users to which I am locked out. You can find the CSIRO at <**http://www.cis.csiro.au/cis/lib/library.html**>.

And one last thing. Here is something to reflect on from Nora Paul of the Poynter Institute for Media Studies in the USA. (The Poynter Institute trains journalists and has a great emphasis on CAR; Computer Aided Reporting, ie. training journalists to use the Internet and other electronic resources.) She said last year: "Can we get over this false nostalgia for the good old days when information was reliable, accurate and well-organised?! There have always been false facts, mis-information and chaotic collections. My favourite example: USA Today had a 'fun facts' box: 'How Many Nations?'. The *1995 Guinness Book of World Records* lists 256 countries in the world. But other sources recognise different numbers: World Bank - 166, Int'l Monetary Fund - 187, UN - 185, US State Department - 189, *World Book Encyclopedia* - 235." (Paul, Nora. 'Re: Internet info -- what you do with it and how?' <newslib@gibbs.oit.unc.edu> Mon, 25 Sep 1995). I think her point is that if we are pedants about accuracy and sources we won't ever go out there and have adventures. Just get out there and use it. Teach students to be critical thinkers and problem solvers. The rest is up to them.

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A SELECTION OF RECOMMENDED WEB SITES FOR TLS TO VISIT

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1. *Guide to Australia* located at **<http://www.csu.edu.au:80/education/australia.html>**.

This site is stacked with hyperlinks to all sites that provide vital information about Australia - statistics, mining, geography, environment, culture, tourism, travel, government and history. An important part of the index is communications. This section provides details about the Internet, Australian web sites and electronic mailing lists. *Guide to Australia* is well worth a visit and a bookmark as it provides a springboard to useful sites that have application across the curriculum.

2. *Search Engines* located at **<http://www.search.com>**.

A vital component of any teacher-librarians life in cyberspace. This site provides search boxes linked to search engines such as Infoseek, Excite, Yahoo, Alta Vista, Lycos and Magellan. My favourite is Lycos as it provides an advanced search process to facilitate Boolean search and matches.

3. ***Toss-up: an online magazine written by teachers for teachers*** located at **<http://www.uq.oz.au/~zzdpedwe/tossup/toss-up.html>**.

This site is a joint project of Effective Learning and Teaching Unit, Department of Education, Queensland and oz-teacherNet, Queensland University of Technology. The aim of this site is to build a resource which will help educators explore issues about effective learning and teaching and the Internet. There are four main areas for stories - Connections (all aspects of making and maintaining an Internet connection), Curriculum (effective learning and teaching using the Internet), Information Skills (the skills students and teachers need to navigate the net) and Professional Development. Information on the five principles of effective learning and teaching are provided in detail. Another section provides a Soapbox where readers can discuss a topical issue. There are external links to oz-teacherNet, Edupage Update, oz-teacherNet projects and HTML tips and tricks. Stories can be sent to <d.pedwell@mailbox.uq.oz.au>.

4. ***BigSix - Information literacy in the USA*** located at **<http://edweb.sdsu.edu/edfirst/bigsix/bigsix. html>**.

This site provides the details about BigSix - a systematic approach to information problem-solving, reference to six broad skill areas necessary for successful information problem-solving and a complete library and information skill curriculum.

The BigSix Skills is a product of Mike Eisenberg and Bob Berkowitz. The skills can be used by teacher-librarians, teachers and information specialists to help learners to develop information literacy skills.

The Big Six Skills are defined as Task Definition, Information Seeking Strategies, Location and Access, Use of Information, Synthesis and Evaluation. This site provides a detailed description of each of these skill areas.

Also, a handy site for those who subscribe to the mailing list.

5. ***oz teacherNet site*** located at **<http://owl.qut.edu.au:80/oz-teachernet/>**.

This is a starting point for Australian teachers who want to use the Internet for professional development and curriculum projects. The site provides an Australian email list for teachers, details about curriculum projects, professional associations, current events and resources for the Key Learning Areas. Another handy site for those who subscribe to the mailing list of oz-teacherNet.

6. ***Olympics - Atlanta and Sydney*** sites can be located at **<http://www.com-stock.com/dave/#index>**, **<http://www.mindspring.com/~danmarch/atlanta.html>**; and **<http://www.sydney.olympic.org/>**.

BEST COPY AVAILABLE

These sites provide information and links to data about the Olympic Games and the locations. The first two sites link to the Atlanta Olympics. A guide to the Games with other hyperlinks to information about Atlanta, even details about where you can stay in Atlanta, form the major part of these two sites.

The Sydney site provides a summary with an overview, dates and contact addresses for further information. You can find out that Australia will field a volleyball team for the first time in the year 2000. Also, data on the Paralympic Games and the sports associated with these Games are listed. Fact sheets form the major part of the Sydney site.

Some school projects have established initial links with students in Atlanta by email to facilitate 'conversation' about what is happening in Atlanta in preparation for the Olympics. This has generated discussion between the linked schools that goes beyond the topic of Olympics, and facilitates enhanced activity by pointing the web browser to the Olympic sites listed above.

7. *Landcare* located at <**http://www.erin.gov.au/land/landcare/landcare_info.html**>.

This site is produced by the Australian Nature Conservation Agency, the Department of Primary Industries and Energy and the Department of Environment, Sport and Territories. It includes the history of landcare development and how to use the site. Current landcare programs are listed in detail and provide a good cross-section of Australian projects.

Addresses of national organisations are provided together with other landcare activities. A link to the Australian Environment On-Line homepage connects you to other environmental projects.

8. *Schools on the Web* located at <**http://www.auswired.net/Chalk/Schools.html**>.

Schools throughout Australia are listed at this site. From this homepage you can view the school's homepage and find out details about the school and links to other educational sites. Also, the email address of a contact person at the school is provided. For schools contemplating developing their own homepage this is a site to visit to see what has been achieved at the school based level rather than the commercial world.

9. *EdNA (Education Network Australia)* located at <**http://www.edna.edu.au**>.

This is an initial site for testing as EdNA becomes a major provider of educational resource material. Hyperlinks take you to educational sites, resources, educational projects and services. Details are also given about the Key Learning Areas and cross-curriculum foci.

10. *Holidays in Australia* located at <**http://www.cos.com.au/travelaus**> and <**http://www.oztourism.com.au/~gdaymate**>.

Every teacher-librarian has to build in time for some adventure. I couldn't think of a better way than to browse the holiday sites to find an exotic place to have some rest, relaxation and refreshing time.

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A SELECTION OF RECOMMENDED WEB SITES FOR TLS TO VISIT

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The following sites are my favourites:

1. ***ABC (Australian Broadcasting Corporation) Site*** located at <**http://www.abc.net.au**>.

This a very useful site for determining what's available on the ABC Radio and Television and what is available in ABC shops. Best sellers; what's hot; new releases; and tour dates relate to all areas of ABC production including book, audio, video, radio and television. Details are given of all ABC television and radio programs, both present and future. Interests can be explored with subject searches. Forthcoming highlights of radio and television are described in detail. Links are provided for *Four Corners; Hotchips; HTTP; Quantum; Radio National; Radio Australia and BTN (Behind The News)*; as well as education links; science links; media links; music links and politics links.

2. *Guide to Australia* located at <**http://www.csu.edu.au/education/australia.html**>.

This is a wonderful site for information about Australia. The compilers are hoping to produce an online hypertext encyclopaedia, by providing links to all available online resources about Australia. This site includes general facts about Australia; facts about Australian currency; Royal Flying Doctor Service; Australian Stock Exchange; mining; States and Territories; flora and fauna; communications; media; art; music; tourism; government and history; the Australian Constitution; Australian legal information; science and technology and Australian telephone directories. Many of these links are links to other sites, but some links such as mining provide actual data , which can be used by all school levels.

3. ***Australian Embassy, Washington DC*** located at <**http://www.aust.emb.nw.dc.us**>.

This site compliments *Guide to Australia* as it provides actual information about Australia rather than focusing on the provision of links to other sites. This site covers economy; international trade; geography and climate; flora and fauna; people; history; government; tourist tips; visas and immigration. The links that it does provide include Canberra Department of Foreign Affairs and Trade and 'other great Australian Sites'. The information provided is suitable for all school levels.

4. ***Olympic Sites***

With the Olympics in July, I am sure the Olympics will be a hot topic in all schools. Two very useful sites are:

Olympic History located at <**http://www.cam.org/~fishon1/olympic.html**>. This covers the history of the Olympics in a very comprehensive and readable manner and is suitable for both primary and secondary schools.

Guide to 1966 Olympic Games located at <**http://www.netroam.com/olympic/index.html**>. This covers everything anyone ever wanted to know about the Atlanta Olympics from ticket sales; venues and maps to information about the Games; medals and record holders. All sports included in the Games are dealt with individually. This site has links to the official *Olympic Games site* located at <**http://www.atlanta.olympics.org/**>. I found the official site not as useful as the *Guide to the Olympic Games* as it appeared to concentrate more on more pictures and graphics and less on information.

5. ***ASAPWeb*** located at <**http://www.asap.unimelb.edu.au**>.

This site is excellent for finding information and gaining an understanding of Australia's Scientific Heritage. Links on the site include:

- *Bright Sparcs* which provides information on 2000 Australian Scientists. These can be searched alphabetically by name or by scientific field.
- *History of Australian science and technology*

- *Physics in Australia to 1945*
- *WWW Virtual Library,* which covers the history of science, technology and medicine.
- links to museums, exhibits and images around the world. This includes the a-bomb museum in Japan; History of Heart Disease Museum; Benjamin Franklin Museum; Women of Science Museum; Leonardo Museum; Bologna Astronomica Museum.

Links are also provided to the *Australian Academy of Science* and the *Australian Foundation for Science* as well as electronic science journals and email discussion lists and news groups.

6. *Guide to Australian Art Sites* located at <**http://online.anu.edu.au/ITA/AusArts/www/library/austart.html**>.

This site explains itself as it is a comprehensive guide to Australian Art, providing links to a wide range of Australian Art sites including: the *Aboriginal Studies Homepage* covering Aboriginal art, culture and music; the *National Library Pictorial Collections; University Art Collections; Art Schools and Art History Departments; Australian Art Galleries and Collections* and *ArtServe,* the server from the Australian National University Department of Art History which offers access to about 10,200 images and allows you to 'dial-up' images you want. A dream for serious art students and teachers.

7. *Mathmagic* located at <**http://forum.swathmore.edu/mathmagic/**>.

MathMagic is a K-12 telecommunications project developed in El Paso Texas, which encourages students to solve mathematics problems over the Internet. Their are four categories K-3, 4-6, 7-9, and 10-12, and registered teams from schools around the world pair up with another team to engage in problem-solving activities. When the two teams agree on a solution then a solution is posted for each pair of teams. Apart from the obvious advantage of encouraging mathematical problem solving, the pairs learn a great deal about the other students in the team and about their customs and home country.

8. *New Zealand Government Web Server* located at <**http://www.govt.nz**>.

This web site provides a detailed map of New Zealand and sufficient information to satisfy most primary and lower secondary assignments on New Zealand, or at least provide a satisfying starting point. Topics include the land; the people; the economy; living costs; and international comparisons. There are numerous links to other sites containing information about New Zealand including travel; business; weather; the orchestra; the National Library; the Universities; culture; statistics and citizenship.

9. *Jane Austen Information Page* located at <**http://uts.cc.utexas.edu/~churchh/**>.

With all the hype about Jane Austen over the past few months, the *Jane Austen Page* provides considerable interest even for those are not studying her novels. For those students who are, this page might provide the additional stimulation to keep them reading and might even help them with their assignments. This page created by Henry Churchyard of the University of Texas includes annotated, complete texts of her novels; texts of her minor works; study notes; genealogy charts of her characters; guides to television and films of her works; academic articles, period maps of Bath, original illustrations and a picture of Jane Austen.

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INTERNET RESOURCES FOR THE TEACHER LIBRARIAN

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1. PROFESSIONAL JOURNALS

FROM NOW ON is a monthly electronic commentary on educational and technological issues. The site is authored by Dr Jamieson McKenzie, the Director of Libraries, Bellingham Schools, Bellingham WA. It is a site, which has been maintained over the past 12 months, with thought provoking and topical discussions about the Internet and its application in education. The Mar/April journal, Vol 5 No 6, is titled, "Filtering the Web: A tale of fishnet stockings and swiss cheese." The articles included are, "Why do some schools filter?", "A dozen reasons to avoid filtering", "Bad sex sites found while filtered," "How about parents and families?" Included in this months journal are referees for Jamie McKenzie and a collection of related resources with links to filtering and child safty information.

McKenzie's style is clear, his articles are very readable and provide a good stepping stone for further reading on a particular topic. There is balance in his approach to each topic, with reference to differing points of view, where relevant. There are no external links apart from the related resources, of these, five links were inaccessible. It is available at the URL <**http://www.pacificrim.net/ ~mckenzie**>, or via email at <**mckenzie@pacificrim.net**>.

TOSS-UP is an online magazine written by teachers for teachers. It is authored jointly by the Effective Learning and Teaching Unit, Department of Education, Qld. and oz-teacher Net, QUT. The site aims to explore issues about teaching and the Internet under four main areas. "Connections", comments about all aspects of making and maintaining the physical Internet connection. "Curriculum", which aims to demonstrate and discuss "effective" learning and teaching using the Internet. "Information Skills", which are the skills required to navigate the Net and "Professional Development" which aims to further inservice and train teachers in the use of the Internet.

The site currently hosts few articles. It is a fairly recent site with plenty of room for more comment and discussion. The value of this site is that it is meant for teacher to teacher comment and will reflect the current trends and experiences of those working with the Internet in schools. The set out of the site can be confusing, the links to each of the four main areas are not clearly indicated. There are external links to both the Effective Learning and Teaching Unit, Qld and Oz TeacherNet, QUT. The site is maintained by David Pedwell. It is located at <**http://www.uq.oz.au/~zzdpedwe/tossup/toss-up.html**> or available via email at <**d.pedwell@mailbox.uq. oz.au**>.

2. EVALUATION OF WEB SITES

The ***INTERNET SOURCE VALIDATION PROJECT*** was prepared by staff at Memorial University and Bishops High School to assist their students evaluate the web sites that they are using. The site uses the terms "concrete validity"and "context validity" explaining each with examples for the students to use. The two types of validity tests look at such things as the web site's source, authority, intent, and other links. It is designed for secondary students through to university level. It is a comprehensive site with a reference section which links to more Internet evaluation tools. One of these references is called "Critical Evaluation Surveys" by Kathy Schrock which contains simplified descriptors for children in the primary school level. There are external links to both the Memorial University, Faculty of Education and Bishops High School. The site is located at <**http://www.stemnet.nf.ca/Curriculum/Validate/**>, or is available email at <**edu6662@calvin.stemnet.nf.ca**>.

3. QUICK REFERENCE SITES

The ***CIA 95 FACTBOOK*** is a very detailed source of information on each of the countries of the world. For each country there is information listed under the headings; geography, people, government, economy, transport, communication and defence. The factbook is published annually in July by the Central Intelligence Agency for use by US Government Officials. Information for the yearly updates are provided by various United States Government departments. The site has been prepared for an adult audience, text is quite small and can be difficult to read. It is a site which would be best used by teachers and secondary students to access the latest and most up to date information about a particular country of study.

The site is indexed alphabetically by country name. There is also a collection of maps showing simple data such as borders, cities and main towns. As well there is an address for contact with the CIA department handling this publication and a page with notes, definitions and abbreviations. There are no external links to this site. It is located at **<http://www.odci.gov/cia/publications/95fact/index.html>**.

The site ***GUIDE TO AUSTRALIA*** aims to provide links to all online resources about Australia available to the World Wide Web. The site is co-authored by David Green, from the Charles Sturt University and by Jim Croft from the Australian Botanical Gardens. Reading age for the various topics are varied, depending on authorship. The various sites are grouped loosely under subject headings, there is the need though to explore the site. As an example, the Currumbin Bird Sanctuary is listed under *Queensland, tourism*, but within there is a very valuable section on *Endangered Australian Animals* which would rival current CD-Rom material for primary school children on the same topic.

This site contains a multitude of links and will continue to grow, as WWW sites expand. One of the links is to a site called *Australia Index Virtual Library*, which is an alphabetical listing of sites with a brief summary of content. As with the ***Guide to Australia***, there is a need to explore as the titles and the brief summary are sometimes not an adequate description from an educators point of view. There are many government publications listed, one of which being the *Australian Bureau of Statistics* which is updated daily. There are external links to *Charles Sturt University* and the *Australian National Botanical Gardens*. This site is located at **<http://www.csu.edu.au/education/australia.html>**.

The ***Children's Literature Guide*** is a collection of Internet resources related to books for children and young adults. The site is collated by David K Brown, Director of the Doucette Library of Teaching Resources from the University of Calgary, who in gathering all these resources togeher hopes to lead the reader back to the books themselves. The site is an impressive list of links covering all aspects of children's literature available online. The site contains many areas; a listing of international conferences and award winners relevant to children's literature, information about authors and illustrators, online stories and samples of books in print. There are also links to booksellers and publishers(American) and research guides, indexes and other resources. There is an external link to the *Doucette Library of Teaching Resources* from the University of Calgary. It is located at **<http://www.ucalgary.ca/~dkbrown/index.html>**.

4. ONLINE REVIEWS

The ***INVENTORY OF ELECTRONIC RESOURCES*** provides reviews of electronic based information resources. The site has been prepared by the Open Learning Technology Corporation, funded by the Department of Employment, Education, Training and Youth Affairs. Each review contains comprehensive details of publisher, cost, ISBN, with system requirements, a detailed description and review, a rating and appropriate curriculum area application. The reviews are indexed according to subject area. There is also a keyword search facility, demonstrations with links to appropriate "plug-in" software from Netscape to view and a discussion forum section. The site is maintained by Michelle Teis. There are external links to OLTC, DEETYA and EdNa. It is located at **<http://netspot.com.au/oltc/ier/>**.

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She also has a Home Page at <http://www.gil.com.au/~westdata/>.

11 WEB SITES TO WHET THE APPETITE OF TEACHER LIBRARIANS

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It is a bit like going to a good restaurant. The Internet is a menu of choices where, like the restaurant, there are so many dishes to choose from, and one wonders if the description will match what will be delivered. Which is the dish for you? If time is a factor, and it often is :-(then perhaps the menu choices presented below will provide a guide as to the more interesting selections available on the Net, and ones that will suit a teacher librarian's palate :-) Enjoy!

ENTREE

A site that whets the appetite and develops a taste for what the Net can offer is the ***LIBRARY RESOURCE LIST***, developed by the Wisconsin State Division for Libraries and Community Learning located at <***http://www.state.wi.us/agencies/dpi/www/lib_res.html***>. This is a good starter for those teacher librarians new to the Internet, as well as those who want to keep on top of developments in technology in the library and education fields. It provides links to general reference resources, new Net sites, libraries on the WWW and library OPACs, professional information on library-related email lists, book reviews and other book information, and cataloguing. For those more politically minded, there are links to sites devoted to the use of the Internet in libraries, with an emphasis on the US situation and telecommunications legislation (something worth keeping in touch!). The Education Technology link in the Education Resource List provides information on sites to assist TLs involved in technology planning in their schools as well as subject-based sites and lesson plans to use with other teaching staff.

SORBET

Something light and easily digestible is recommended here. My suggestions include three sites that keep you aware of new resources on the Net. A daily scan doesn't take long and can provide an opportunity to access something light-hearted as well as the more serious stuff of our professional work.

The ***NCSA WHAT'S NEW*** page is a joint production of NCSA, the National Center for Supercomputing Applications, and Global Network Navigator, Inc. It provides a daily listing, that is archived, of new sites on the web, including a separate 'Best 5' category. It is located at <**http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/Docs/whats-new.html**>.

The ***SCOUT REPORT*** <**http://rs.internic.net/scout/report/**> offers, on a weekly basis, listings and accompanying summaries of research, educational or general interest sites. It also includes information on the latest network tools available on the Net.

The ***VIRTUAL DAILY NEWS*** <**http://www.infi.net/~opfer/daily.htm**> is a site that links various news organisations, including Reuters, NandO and CNN World. As well as world news, sport, comics, technology and education information, you can search for a particular magazine or newspaper. I recommend checking more than one news source as they don't overlap as much as one would think. Very handy, too, for when that staff member comes up and asks for the latest info on......

MAIN COURSE

Now for the 'meat and three veg' section! There is some serious consumption in store for you here, so it is always best to set aside some time in order to gain the maximum value from these sites. Like any new thing, there are many interesting flavours to choose from but familiarity will eventually identify the more appropriate links.

The ***WWW VIRTUAL LIBRARY*** **<http://www.w3.org/hypertext/DataSources/bySubject/Overview.html>** is a distributed subject catalogue maintained by volunteers at W3 Consortium. This is THE definitive quality information source. Like an annotated bibliography, it lists links to sites that deal with specific subject areas. I would recommend consulting this site, before using a search engine, if the subject area is not too esoteric. There is usually enough starting points here to keep any library user happy for a while.

The ARGUS/UNIVERSITY OF MICHIGAN CLEARINGHOUSE **<http://www.lib.umich.edu/chhome.html>** is similar to the *WWW Virtual Library* above. Its subject headings are broader, hence it may take a bit longer to digest, but if the link is busy to the virtual library, then this makes a good backup. This site still offers a lot of choices and some may prefer this resource to the virtual library, for particular subject areas.

The ***ELECTRONIC RESOURCES FOR YOUTH SERVICES*** **<http://www.ccn.cs.dal.ca/~aa331/childlit.html>** is the best site I have come across so far for children's literature links on the web. It provides a collection of links to online literature, authors, book awards, storytelling, writing resources, newsgroups and listservs devoted to children's literature, and the list goes on. It is an ideal site for teacher/librarians to sample.

Now one for TLs that need to keep in touch with the (intended) regulation of the Internet by government bodies. ***REGULATING THE NET*** **<http://www.anu.edu.au/people/Roger.Clarke/II/Regn>** by Roger Clarke, a Visiting Fellow at the Australia National University. It gives a good overview of what is happening in Australia, US, Sweden, Germany; some of the incidents and consequences that have already occurred; and other relevant material. This is also a useful site when parents are after information on the protections and controls of what is available on the Net.

ACCOMPANIMENTS

With every main course, there are side dishes. Considered as extras, they can be consumed by those with an appetite for them, or put aside without affecting the flavour of the main meal.

The ***INTERNET STARTER KIT for MACINTOSH*** by Adam Engst is now available online at **<http://www.mcp.com/228523141195185/hayden/iskm/mac.html>**. For those who would like to understand the technical/configuration side of their Internet software, or are looking for a resource to recommend to new staff users that will help them understand the software, then this site is good value. I particularly recommend Chapter 29. There is also a link to the latest software updates for the Mac. (Sorry, but the PC version is not online yet) :-(

The ***CULT OF MACINTOSH*** is a good first place to go for help on Macintoshes. It is definitive in providing information on anything and anywhere to do with Macs on the Internet. It covers aspects such as periodicals, software, newsgroups, games, powerbook, apples, vendors, and much more. Very good for consulting on how to troubleshoot that problem you've may have been having with your computer. I have also recommended this page for those TLs who would like to get more into knowing the technical side of their machines. As more and more information becomes availble through the computer medium, we need to at least become familiar with some of the terms and mechanics, especially if we want to sound reasonably knowledgable when a technician or the Computing Coordinator is around. (It's also easier to argue for an upgrade if you know the terms!) :) You can find this site at **<http://cult-of-mac.utu.fi/index.html>**.

DESSERT AND COFFEE

Dessert should be something decadent, so I have chosen this last site purely for its self-indulgence aspect :-) The ***EPICURIOUS HOME PAGE*** at **<http://www.epicurious.com/epicurious/home.html>** is devoted to food, wine, fresh produce, playing with food, gourmet food, menu for the day (with complete recipe instructions!), and just recipes. It is, of course, a useful site for staff and students concerned with Food Technology/Home Economics.

Now, curl up with a coffee and your notebook, and savour the many flavours you have discovered today on the Internet. Remember, a good meal should never be rushed, and the same goes for a website with many potentially useful links. Sit back, relax and enjoy!

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A SELECTION OF RECOMMENDED WEB SITES FOR TLS TO VISIT

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Before discussing World Wide Web sites for teacher librarians, it is worth asking what kind of information teacher librarians might need, and for what purposes. Web sites or 'hot spots' can then be considered in terms of the ways in which they meet the information needs of teacher librarians. Not only do teacher librarians use information (including information from the Web) in their own professional field, but they are also responsible for providing information for other people, and for teaching information search skills. Consequently, their information needs are complex, and this is reflected in their use of the Web.

The following are among the purposes for which teacher librarians might be using World Wide Web resources:

1. To locate discussions of professional issues in the field of school librarianship, for example, issues like the selection of electronic resources, or censorship of Internet resources.
2. To find answers to reference questions (for teachers, students, school administrators, and others in the school).
3. To provide information services to teachers and school administrators.
4. To locate information and resources for co-operatively planning and teaching curriculum units.
5. To locate Web sites that are suitable for use in information skills instruction or demonstrations of searching.
6. To extend the range of information resources available in the school by selecting Internet resources that augment the library's collections.
7. To locate recreational resources that may be appropriate for students and others in the school.
8. To support school participation in Internet projects at the local, national, or international level, by providing information, resources, and assistance.
9. To get information about print or audiovisual or software resources that might be purchased or otherwise acquired for the library collection.
10. For user-friendly access to free and commercial online information services, including newspaper databases and services like DIALOG.
11. To encourage creative use of the Internet in the school.
12. To support the creation of the school's own Web pages.
13. For professional development.
14. To keep up to date with current developments in the field.

All this indicates that teacher librarians need to be aware of a wide range of Web resources and services in many different subject areas. One way of achieving this is to allocate time on a regular basis for Web exploration. However, given the speed with which the Internet is growing, this will probably not be enough. Time can be saved, and extra territory covered, by following up on the 'hot spots' that have been found by other teacher librarians. Thus this virtual conference strand, 'Hot

Spots on the Web for Teacher Librarians' could serve a very useful purpose, particularly in providing leads to material that others have found to be particularly useful or appropriate in the school library setting.

It was with the wide-ranging information needs of teacher librarians in mind that I created a page of 'Links to School Library Resources on the Internet' as part of the Web site of the International Association of School Librarianship (IASL). This site as a whole is designed to serve several purposes: to meet the needs of members of the Association for information about IASL activities; to promote the Association to potential members; and to help teacher librarians and others to explore the Internet. The page of 'Links to School Library Resources on the Internet' (I need a snappier title!) is a growing service that provides a starting point for Internet exploration and leads to resources of many different kinds.

The IASL Web server is mounted on a mainframe computer at the University of Iceland. Don't let the distance put you off -- the computer is large and the international links to it are normally very fast, so that the pages come up within a few seconds on most Australian connections. Graphics have been kept to a minimum to conserve bandwidth, to improve speed, and to make life easier for IASL members who are in countries where Internet connections are slow or difficult. To get to the server, point your browser to <**http://www.rhi.hi.is/~anne/iasl.html**>.

This brings you to the home page of the Association. From the menu, select the option 'Links to School Library Resources on the Internet'. There are more than 100 links on this page, each with a short descriptive annotation. The resources are organised into categories, defined by a menu at the top of the page. The categories include the following:

- Library Associations
- School Library Associations
- School Libraries and School Librarians on the Internet
- Resources for School Librarians
- Educational Resources
- Children's Literature Resources
- Other Resources
- Resources Provided by IASL Sponsors and Partners
- School Librarianship Listservs

The servers of professional associations in the general field of librarianship have been included partly because they provide professional resources for their members and others, and partly because they often provide guidance for Internet exploration. Thus the Web pages of the American Library Association (ALA), the International Federation of Library Associations and Institutions (IFLA), and the Australian Library and Information Association (ALIA) provide many useful links to resources for librarians, and also links that will help teacher librarians to provide better services to their students, teachers, and administrators.

The Web pages of the school library associations will be even more directly related to the needs of teacher librarians. For example, the Web pages of the American Association of School Librarians (AASL) not only provide information about the Association but also provide links to school library resources and to curriculum resources in a number of subject fields. An interesting part of the AASL Web server is ICONnect, 'a technology initiative of the ... Association ... that is designed to get students, library media specialists and teachers connected to and using the Internet'. On the Web pages of the British Columbia Teacher Librarians' Association (BCTLA), Internet resources for school libraries are organised into broad Dewey classes so that they are accessible in the same way as other school library resources. Other school library associations with Web pages include the Canadian School Library Association, the Hong Kong Teacher-Librarians Association, and the Manitoba School Library Association.

Some school librarians have created Web pages for their libraries, either to promote the library, or to provide a service for library users, or both. These pages may serve as models for other school librarians who are thinking of creating Web pages, and as a source of ideas. However, they can be useful in another way: they usually incorporate links to help members of their school community to

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find appropriate resources on the Internet, and these links are likely to be of interest to other schools where similar programmes are in operation. The IASL page includes a few links to individual school library home pages, including the pages of St Kevin's College, Toorak, Hoppers Crossing Secondary College, and Kilvington Baptist Girls' Grammar School, Melbourne (all in Victoria). The IASL page also provides two links to useful index pages. Peter Milbury, the library media specialist at Chico Senior High School in California (and Co-owner of the LM_NET international listserv for 'school library media people'), has created 'School Library Web Pages', which provides links to Web pages that have been created by school librarians. Linda Bertland, another American school library media specialist, has created 'School Libraries on the Internet: A Directory', which has a different focus: this is an interactive listing of school library web pages by country (with some from Australia).

The section of the IASL page on 'resources for school librarians' lists a wide range of resources and services, most of which (though not all) were designed specifically for school librarians or people who are providing library and information services for young people. There are links to the Internet Public Library (an enormous and friendly virtual library, including a youth services division, created by the library school at the University of Michigan), 'Cool School Tools' (curriculum-related resources), 'The Internet Advocate' (links for school librarians), 'School Librarians' Hot Spots' (created by the Assiniboine School Division in the United States, among others. One particularly useful link is to 'World Link', an electronic journal for school librarians and teachers, created by American school library media specialist Linda Joseph. 'World Link' has short, practical articles, and lists of Internet sites, with evaluative comment.

Under the heading 'educational resources', there are links to national and regional educational networks that have collections of resources and links to Internet sites. Among these are Canada's SchoolNet, SchoolNet UK (provided by Eaton School in Norwich in association with the University of East Anglia), and Bushnet (an Australian network of schools in far North Queensland, whose site comes complete with blowflies, barbed wire, and other bush icons). Useful sites developed by teachers include the 'Hotlist of K-12 Internet School Sites' and the 'Busy Teachers' Web Site K-12', both in the United States. In the United Kingdom, the University of Wales at Aberystwyth provides 'Magpie - The Internet Educational Resources Guide', while the National Council for Educational Technology (NCET) provides the full text of its comprehensive book, *Highways for Learning: An Introduction to the Internet for Schools and Colleges.* To say that the latter is the full text of a book is something of an understatement: it incorporates an interactive directory to hundreds of Internet sites for educators, arranged by subject. Two American commercial sites (with free access) are worth noting. One is the Scholastic Internet Center, which has information about books and authors, and educational materials, as well as online ordering facilities for Scholastic products. The other is the Web site of the monthly magazine 'Classroom Connect', a magazine that provides practical articles for teachers who want to use the Internet within the context of the school curriculum. The Web site advertises the magazine and provides additional information and links.

Other sections of the IASL page lead to children's literature resources, and to other resources, such as the well-known 'Uncle Bob's Kids Page' (great fun). There are also links to other resources on the IASL server itself, including selected articles from the IASL Newsletter, contents lists from the IASL journal *School Libraries Worldwide*, and information about IASL conferences and other activities.

The International Association of School Librarianship provides 'an international forum for those people interested in promoting effective school library media programmes as viable instruments in the educational process. Membership is worldwide, and includes school librarians, teachers, librarians, library advisers, consultants, educational administrators, and others who are responsible for library and information services in schools. The membership also includes professors and instructors in universities and colleges where there are programmes for school librarians, and students who are undertaking such programmes.' Activities of the Association include:

- annual conferences (in a different country each year);
- a quarterly print newsletter (with selected articles on the Web);
- a professional journal, *School Libraries Worldwide;*
- an Internet listserv for members, called IASL©LINK;
- a leadership development Fund that assists leaders in the field of education and libraries in developing countries;

- an International Commendation Award, provided each year in association with SIRS (won four times by Australian projects!);
- a publishing programme;
- a research grant (in association with Softlink International);
- and other activities and programmes.

For further information about the Association, see the relevant sections of the Web server.

The IASL Web server was established in late 1995, and it has grown during the last six months. It is planned that by the end of 1996, it will have doubled in size. In particular, I would like to add more full-text documents, and I am currently seeking copyright clearance from authors and publishers to add a range of materials from different sources. In addition, more IASL documents and articles will be available through the server. At present, I am on sabbatical leave from the University of Iceland, and my access to the mainframe computer at the University of Iceland will be limited until I return to Iceland in mid-August. After that time, you can expect to see a number of changes implemented. Suggestions are welcome! I would like to be able to add links to any resources created by school librarians and school library associations. I would also like to be able to add some full-text documents from Australia, and I will be approaching copyright owners later in the year.

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TOPIC C

CHILDREN'S LITERATURE AND THE INTERNET

POTENTIAL USES OF THE NET FOR CHILDREN'S LITERATURE IN SCHOOLS

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The purpose of this paper is to focus on the potential rather than the actual use of the Net for children's literature in schools. In many instances this potential is, to a varying extent, already realised or being realised. However the discussion of what is actually happening and available on the Net with regard to children's literature in schools is covered in other papers offered, while this paper seeks to provide a more philosophical overview. Children's literature, as discussed here, refers to literary works, especially fictional stories but also folklore, myths and legends, plays, and poetry. Works which purely provide information on a subject are excluded. This is a common perception of what children's literature is, but it is far from being the only accepted definition of this subjective term. The term 'children', for the purposes of this paper, is used in reference to literature appropriate to secondary or high school students as well as literature appropriate to primary or elementary students.

What then is the potential for using the Net with regard to children's literature in schools? The potential is vast. The Net enables ideas and information on children's literature and its use in schools to be stored in great quantities and readily made available around the world at a low cost to the user. Anyone who has access to the technology, and the skills to use it, can not only draw from this potential pool of knowledge, but can also readily contribute to it. The potential information explosion for the teacher or teacher librarian, used to drawing their information on children's literature from the journals and professional texts they and or their school can afford, is immense! Teaching ideas, units, curriculum documents and schemes for using children's literature to enhance teaching and learning can potentially be readily made available via the Net. Students can contact authors to discuss their works. Teachers and students can contribute to and be part of programs which extend far beyond the physical environment of their school. Help and guidance can be sought by teachers on the many professional and intellectual issues which are part of children's literature.

Additional potential resources for the teacher librarian include collection development policies, selection criteria, censorship case studies, reviews of children's literature, information about authors and their works, information from publishers on new publications, information on and from professional bodies concerned with children's literature, discussions on the roles of the teacher librarian with regard to children's literature, ideas on the organisation and promotion of children's literature. In essence the potential access to sources and resources on children's literature relevant to the needs of teachers and teacher librarians via the Net is all and more than can be provided by conventional means at a fraction of the time, cost and effort.

This potential can be made more readily apparent by focussing for a moment on one aspect of teacher librarians' needs with regard to children's literature, namely catalogue records. Teacher librarians are keen to provide the best possible access to the children's literature in their collection through the catalogue. They are also generally keen not to have to create the catalogue records needed to fulfil this goal themselves! Teacher librarians normally obtain the records they need through a centralised cataloguing agency such as the Schools Cataloguing Information Service in Australia and New Zealand and school district or school board media processing centres or book jobbers in North America. These catalogue records are then accepted as given or further enhanced to better meet the needs of the school community. But the teacher librarian's awareness of what is occurring beyond her cataloguing agency and school library tends to be very limited. The Net creates the potential for teacher librarians to be able to access online the catalogues of a variety of school and other libraries around the world thus enabling teacher librarians to readily gain a wider understanding of ways in which access to children's literature can be provided through the catalogue. It also enables teacher librarians to assess the quality and desirability of records for children's literature being provided by different cataloguing agencies. Conversely it creates the potential for cataloguing agencies to make their catalogue records readily available for sale to a much wider, indeed world wide, market by enabling teacher librarians to download desired catalogue records from the Net directly into their catalogue for a fee.

Many of you who are familiar with the Net are by now shaking your head at my naivety. Remember this paper is concerned with potential rather than what exists. What exists often, as yet, falls short of the ideals I have mentioned. There are good children's literature resources on the Net, many of which will no doubt be discussed in the subsequent papers in this area. However there are also many gaps in the types and range of information available in this field and many sources which do not live up to expectations. This I believe has occurred because of the less desirable potential of the Net in this field.

First among these is the potential for mediocrity. As anyone with the necessary skills and equipment can contribute to the Net, and these are not prohibitively expensive or difficult to obtain, there is little control as to the quality, authority or even currency of the sources in the field of children's literature on the Net. Second, there is the potential for irrelevance. Resources can be created on all sorts of whims and extraneous subjects relating to children's literature. Among these one might find some unexpected goldmines of original thought but there is the greater potential for a great deal of dross to be created which one then has to search through to find the material of value. There is also the potential for undesirable material to be published on the Net in the area of children's literature. This is a field with strong appeal, a wide audience and a variety of contentious issues. Those with a particular social or political viewpoint which is widely viewed as undesired by schools can produce material in this field on the Net which expounds their viewpoint under the guise of providing information. Some commercial interests might also succumb to the temptation to use the Net to push their product under the guise of providing information on the topic to which the product relates. Another negative potential is for vested interests to withhold information from the Net either because of sheer conservatism, or for commercial reasons, or because of the difficulty and expense of overcoming some technical problem. Such negative potential is part and parcel of the Net as it currently exists.

Another potential strength of the Net is the potential to be able to search for and quickly locate material on any desired aspect of children's literature and its use in schools. Once again regular users of the Net will probably be quietly smiling at this comment as the current reality as that searching on the Internet is frequently a time consuming and sometimes a laborious and frustrating process. A particular problem in the area of children's literature is that available search engines are best suited to searches for factual information. Many of the terms or keywords we tend to use to search for on children's literature are not of this nature rather being genres or words relating to emotions or behaviour such as 'fear' and 'bullying'. Current searches on such terms can frequently identify irrelevant resources or nothing at all. While there are problems with the current situation, the potential is still great. Search engines can potentially be developed with the particular needs of children's literature in mind. Appropriate search terms can be included in sources published on the Net to assist in their rapid identification and location. Many of these problems have been faced and worked through in library catalogues, they can also be faced on the Net. Indeed with a cooperative approach to this problem of access to sources on children's literature solutions could be found and standards set on the Net which could impact upon and improve the access to children's literature provided through library catalogues.

This discussion would be incomplete if consideration was not given to the potential for children's literature itself to be available through the Net. To examine such a possibility we need to again consider what children's literature is. The term 'children's literature' equates in most peoples minds with the book format. However many people now argue that other mediums such as video, audio cassette, CD-ROMs and children's television programs cannot be ignored. When Colin Thiele's Storm boy came out on video did it cease to be children's literature in its new format? Is listening to a taped version of a novel less worthy than reading the book itself? If we accept such mediums as children's literature when they convey stories for children, how can we exclude the Net when it is able to replicate all that these mediums can do, eg. video sequences, the spoken word, still pictures and of course text? What are the potential gains of having children's literature on the Net? Ready access to children's literature from around the world, possibly in a variety of mediums, would certainly be a plus, although the factor that a charge could be placed upon accessing some items needs to be considered here. The use of text in children's literature on the Net could also help restore the desirability and status of reading for children who prefer the electronic media. Authors can take advantage of the technical potential of the Net to express themselves in new or less commonly used ways, eg. the combination of voice and still pictures. On the negative side the charges that are frequently hurled at most non book mediums that they rob literature of its imaginative qualities and that they lack the portability and convenience of books, might also be levelled at the Net. Removing the publisher as middleman could also raise problems with quality of content and presentation and result in a proliferation of trashy or undesirable literature for children.

Whatever our viewpoint on, or experiences with, using the Net to enhance the use of children's literature in schools the raw positive potential of this medium is undeniable. The extent to which this potential is realised or lost is a decision we will each contribute to.

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STORYTELLING ON THE NET

Barbara Poston-Anderson
Associate Professor and Head, Department of Information Studies,
University of Technology, Sydney, Australia

Once when stories were told face to face and passed down through time by word of mouth, a listener's imagination was the key for entering into the world of story. Now when stories are detached from their tellers and appear on home computer screens, a modem is the tool for traversing space and tapping into WWW story sites.

Ever since the '70s, experimentation with the concept of STORY on computers has flourished. The range of offerings has varied from exploring imaginary worlds, to treasure-hunt games with identifiable characters, to fully developed works of hyperfiction. Today the multimedia industry is still said to be 'awash with attempts to reinvent storytelling.' (*The Economist Review* 1995: 16).

SO...

WHAT ABOUT STORYTELLING ON THE NET?

In the time BC (Before Cyberspace), traditional storytelling was most often low tech. An individual -- identified as the storyteller -- shared a tale, often pre-selected for telling with a specific group. Voice, words and gesture stimulated the imagination of the audience and helped listeners visualise the story in their own minds as it was told.

Story in digital form is extending our understanding of the storytelling process. From my observations, here is how storytelling is transformed when it happens on the Net.

First, to date, most storytelling on the Net is best described as "interactive" or "hypertext" fiction. Participants in the experience either determine the direction of the story by pressing buttons for pre-set pathways (eg. Theodore Tugboat) or actually create the story by writing it (eg. KidPub) or contributing episodes (eg. Where in the World is Darren "Gav" Bleul?). There are also some sites where books are reproduced directly as "on-line documents" from hard copy print sources (eg. StoryLand).

Story control is shared (eg. instead of one storyteller for each idea, there can be many). The notion of story as a package for cultural ideas, values, and mores which is shared with a group known to the storyteller breaks down as stories are shaped by unknown individuals from anywhere in the world. In addition, participants regulate story by choosing the pace at which to leave each screen and the direction in which they wish to travel (eg. forwards, backwards, in a different direction).

The audience for Net stories becomes an active participant -- not just by mentally imagining, but by physically pressing buttons and entering text. The distinction between storyteller and audience (ie. author and reader) becomes blurred. Story-reader becomes story-teller.

Reading, writing and keyboard skills, rather than listening skills, are needed for Net storytelling. "If you cannot read, then you cannot use the Internet." (Johnson 1996: 196).

Since many pathways exist through any given story, traditional story structure breaks down. Stories have more options and can have a multiplicity of endings or be open-ended without closure.

And now for the DEBATE -- Here are a few quotes meant to provoke discussion.

ABOUT STORY AS COMMUNITY:

POINT - Gay Gooderham (1995: 8) writes:

"Once upon a time, we were a race of storytellers. Our ancestors hunkered down in their caves around a warm, protective fire and told stories. Sometimes they would even illustrate a tale with a drawing or two scratched out on the cave wall. In this way we preserved our history, passing on our stories from generation to generation. At the same time, we created a sense of community. The stories united us--we were bound together by the suspension of disbelief and the active imaginings of the storyteller... Today different communications technologies abound [but] I am afraid we may be communicating more volume, and more content, but less meaning."

"A hypertext environment should reflect our own complex humanity, but the tools to match our nuanced needs simply aren't available yet." (Guyer: 1).

COUNTERPOINT -
Douglas Rushkoff, a social commentator and futurist, writes:

"All this technology is like training wheels or braces on your teeth. It's training us to come together into some sort of relationship. Computers and modems and all these wires and satellites provide a conduit for human interaction and for the exchange of energy and ideas" (Casimir 1995: 46).

ABOUT STORY AS STRUCTURE:

POINT -

"Interactive fiction is all too often a failure, if a story in any standard sense is expected." (*The Economist Review* 1995: 16).

"The snag with most electronic stories is that they tamper with the foundation of narrative: structure. When stories wobble and change with our whim, they lose their believability, and with it our willingness to care.' (*The Economist Review* 1995:16).

"Which is the right word to click on? Which path generates the closest thing to a satisfying linear story, the sort that life, experience and thousands of years of storytelling have taught us to expect?" (*The Economist Review* 1995:16)

COUNTERPOINT -

So how important is story structure in our "post-modern era" concerned with "multiplicity, with equalised and decentralised authority... reflected in the structure of the Web itself?" (Guyer: 2)

Rushkoff suggests that: "Contemporary children are much more comfortable with discontinuity, with open-ended structures"[as in interactive fiction on the Net], more so than "most adults" who have been "raised on linear storytelling and expect everything to have a beginning, middle and an end" (Casimir 1995:46).

Besides when you think about it -- "The text as the reader imagined it ...never had to be linear, bounded or fixed." (Landow 1994:4).

And just imagine -- "In some not-so-distant future all individual texts may electronically link to one another, thus creating metatextual structures of a kind only partly imaginable at present." (Landow 1994:10).

ABOUT STORY QUALITY:

POINT -

"Interactive fiction is still a technical novelty, attracting more programmers with literary ambitions than the reverse." (The Economist Review 1995:16).

In addition, "Tree-fiction" [as in, choose what happens next,] "quickly becomes unmanageable. (Ten two-choice branches need more than 1,000 endings). Authors who use trees fall back on artifice; regardless of how you choose, you get one of, say, four endings." (The Economist Review 1995:16)

COUNTERPOINT -

"At this stage of its development, story as it's presented on the Net most often seems to be an excuse to experiment with the technology. Maybe concern for quality will follow as the medium matures."

ABOUT STORY ACCESSIBILITY ON THE NET:

"Not everyone can afford a computer." (Astor 1995:32).

One teenager reminds us that today's innovative technology tomorrow will be commonplace: "Computers? They're just a part of everyday life, like TV and reading." (Mellon 1995:284).

By the year 2000, estimates are that there will be between 200 million and 1 billion internauts (ie. users of the Net.) (Metcalfe 1995:64).

STORYTELLING ON THE NET: A SAMPLER

Have a look at these and decide for yourself...

Story sites designed for children:

<**http://lindy.stanford.edu/~treister/story/Step00**> (Intomi Infoseek).
Fonzo Explores the Universe is called by its creators an "experiment in interactive story building." Developed by students, staff and the community, the main character, Fonzo, visits actual places such as Mars and the Milky Way. The story has pre-set pathways which provide some factual and some whimsical information on each place visited.

<**http://www.ipl.sils.umich.edu:80/youth/StoryHour**>
The Internet Public Library Storyhour presents hypertext stories -- most of them from traditional tales and designed with children in mind. Appropriate screen design and appealing illustrations combine with hypertext links to make these stories ones with which young children can easily interact. The tales are: The Tortoise and the Hare, Molly Whuppie, Do Spiders Live on the World Wide Web?, The Fisherman and His Wife, and The Boy Who Drew Cats.

<**http://www.en-garde.com:80/Kidpub/**>
PubKid is a site where children tell their stories on the Net. Children as young as seven have contributed. Following each story a short biography of the child teller is given.

<**http://www. members.gnn.com/shickman/main.htm**>
Storyland contains stories reproduced in text form (no illustrations) from novels (eg. The Wizard of Oz) and fairytales (eg. Beauty and the Beast, Cinderella). This site also indexes other story sites on the Net.

<http://www.webspace.com/~storyweb/>
Storyweb is a "Safe Kidz Site" for spinning tales. The storyteller is Mike T. Mullen who has spun yarns for children for over six years. Complete text for stories with some illustrations are provided.

<http://www.cochran.com/tt.html>
Theodore Tugboat is a lively hypertext story based on a Canadian TV series created for children complete with colourful illustrations. The links that occur within the text provide additional information about the characters or give children the opportunity to choose what happens next.

Story sites not specifically designed for children:

<http://www.swarthmore.edu:80/~sjohnson/stories>
Story Resources Available on the Web is a great site for directing you to other story sites. A good starting point .

<http://www.AustraliaSt.uts.edu.au/>
Australia Street is a hypermedia story with some sounds, illustrations and accounts of people who live on several different streets named for their country. Links provide contextual information. This site was developed by researchers at the University of Technology, Sydney.

<http://www.ccnga.uwaterloo.ca/~rkleitma/xmas2000.html>
Christmas 2000: Spot's Third First Christmas is described as "a playful Internet experiment in tree fiction." (The Economist Review 1995:16)

<http://www.thespot.com>
Don't be fooled! The story may be about ***Spot***, the dog, but the complexity of ideas and language means it is not constructed with children in mind. (BPA) The Spot is an award winning "cyber-soap" about the life of a 23 year old named Tara Hartwick. This student film-maker and her friends record daily journal entries which are on the Net for the world to see. This site has been described as "an experiment in narrative" which "successfully abandons linear storytelling," Jon Casimir, "Net dwellers bare all their secrets in a real cyber-soap," (Sydney Morning Herald 1995: 6).

For a spoof on The Spot, based on a group of "no-hopers" who live in a mobile home in ***Nowhere Missouri***, see **<http://theory.physics.missouri.edu/~georges/Josh/squat/welcome.html>**.

<http://www.nuc.berkeley.edu/neutronics/gav/wayfarence/welcome.html>.
Where in the World is Darren "Gav" Bleuel? is a moderated (ie. vetted) "Choose-your-own-adventure" type of story where YOU get to write the story. The site was started on August 21, 1995, and has over 2490 total episodes.

WHAT DO I REALLY THINK ABOUT STORYTELLING ON THE NET?

As a CYBERNAUT -- I'm impressed! Just gimme more of those gimmicks and surprises. I wanta be in control and surf my way through stories. I might even sign up for a news group (eg. alt.arts.storytelling) or, if I've got enough memory in my computer, I'll download "Virtual Chat" and see if I can use it to tell stories more directly -- you know, really get in touch with people.

As an EDUCATOR -- I'm concerned! How does one balance the undeniable appeal of technology for children with the need for educational experiences which are structured and designed for learning outcomes? The questionable quality of some of the story sites and the slow pace of accessing them -- even when they do have something to offer-- makes me feel ambivalent. Also, I'm troubled about equity. At least the oral nature of traditional storytelling enabled everyone present to listen and learn. So far stories on the NET require the ability to read, write, and have access to a computer as a pre-requisite. The worry is that some children will be left even further behind.

As a former TEACHER LIBRARIAN -- I'm amazed! An investigation like this makes me understand why some TLs already think of themselves as information managers and even as cybrarians.

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Helping students and teachers access and evaluate information, including story, on the Net is a daunting, but important task. Where will we fit it into our priorities?

As a TRADITIONAL STORYTELLER -- I'm annoyed! Story is more than content and structure -- it's about identity and the human element that links us together. A smile, a nod, a verbalised OOOH or AHH, are all valuable signals from the audience to a storyteller in live performance. Even when virtual storytelling environments advance to the point where direct interactivity between storyteller and audience is possible on the Net, I seriously question whether there will ever be anything like the direct immediacy of the traditional storytelling experience. Some things cannot be improved upon -- traditional storytelling is one of these!

The topic -- Storytelling on the Net -- raises profound educational, ethical and social issues.

What do YOU think about STORYTELLING on the NET?

Please share your thoughts and concerns -- and if you find any other storytelling sites worthy of note -- we'd all love to know!

REFERENCES

Astor, David (1995). Cyberspace draws AAECS's attention. *Editor and Publisher,* 128 (30): 32.

But is it story-telling? *The Economist Review.* Nov. 11, 1995: 16.

Casimir, Jon. End of life as we know it. *Sydney Morning Herald.* Aug. 1, 1995: 46.

Casimir, Jon Net dwellers bare all their secrets in a real cyber-soap. *Sydney Morning Herald.* Sept. 5, 1995: 6.

Gooderham, Gay. (1995). Once upon a time.... *CMA Magazine.* 69 (1): 8.

Guyer, Carolyn. Written on the Web. *Hyperizons Web Site,* : 1.

Johnson, Yvette. (1996). Notes from a reluctant cybernaut. *Journal of Youth Services in Libraries,* 9 (2): 196.

Landow, Delany and G. (1994). *Hypermedia and Literary Studies* Cambridge: MIT Press.

Mellon, Constance. (1995). Taking technology in stride. *Journal of Youth Services in Libraries,* 8 (3): 284.

Metcalfe, Bob. (1995). Are Internet advocates trying to convince you of just another fish story? *Infoworld.* 17 (44): 64.

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WRITING ON THE INFORMATION SUPER-HIGHWAY - THE IMPACT OF THE NET ON CHILDREN'S LITERATURE: A POINT OF VIEW

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One of my pet hates, as a driver, is moving along in the inside lane of the highway at my usual five kilometres or so over the speed limit, (which means incidentally, being overtaken by just about all the vehicles on the road -- especially those over ten tonnes -- a situation that in itself, doesn't bother me at all), then coming around a bend and finding myself confronted with the posterior aspect of a lycra-clad health-fanatic on a ten-speed, alloy-framed, state-of the-art racing-bike, complete with reflectors, throbbing red tail-light and all the standard safety features, which, in spite of the fact that it probably cost twice as much as the 1976 120Y that I'm driving which has trouble maintaining a speed of fifteen kilometres a week -- or so it seems, as I step desperately on the brake, not daring to look in my rear-view mirror for fear of what I might see looming there.

It isn't that I have anything against riding bikes, or exercise, *per se*. I don't even hate the cyclist particularly, despite the fact that it usually takes somewhere between a kilometre and the rest of my journey home to squeeze into the other lane and get past the barely-mobile impediment. (Maybe I *do* hate him, after all!) It just strikes me as an absurdly inappropriate mode of transportation to be using in a transport system which has advanced so far beyond it.

Then, last year, along comes an invitation to take part in a panel-session at the Melbourne (Australia) Writers' Festival on 'Writing on the Information Super-Highway' and I begin to feel something of what that poor cyclist must feel, every time he hears the squeal of approaching tyres.

Me, who thinks it's pretty swish that I own *both* a superannuated 286 desk-top, and a bottom-of-the-line Toshiba T1200 lap-top, and can type, save and print without deleting half a novel in the process.

The first thing that happens, of course, is that I phone the panel coordinator to glean some information about the form the session will take.

His first question? 'Do you have email?' I'm about to tell him that all our white goods are Hoover or Samsung, when I realise that he is referring to electronic mail, which I've read about somewhere, and which is, I believe, a great way to share information, without actually having to go out and meet anyone or kill any trees.

I tell him no.

'Well, how about a fax, then?'

'Sorry,' I admit, cringing, and trying to pedal a little faster.

So he generously agrees to print the information and post it to me via 'snail-mail'; which he does, and I receive it a week and a half later. Not an auspicious beginning.

But it does start me thinking. It is patently obvious that I have not been asked to take part for the sake of my technical expertise -- which might be the equivalent of asking cyclist Kathy Watt to co-drive one of the cars in the Australian Grand Prix. So why me?

Perhaps, because, as a writer for young people, I have chosen as my audience the first generation actually born *in* to the Information Revolution. Perhaps, because, as a creative writer, my perspective on developments along the Information Super-Highway might be different to that of those panel-members who are acknowledged experts in the field of communications technology. Perhaps because I sometimes show an interest in science-fiction. Who knows?

Anyway, I went -- and I spoke...

I write novels; which is to say, I take a given amount of factual information and experience and synthesise them into a piece of art that is, hopefully, more than the sum of all its parts. Literature relies for its effect on the interplay of subtle moral, psychological and sociological factors, which allows author and reader to 'interface' on a level that all the advances in information technology have not come even close to matching.

Lost amongst the dazzling array of better and more efficient ways to store and share information, many commentators have fallen into the trap of equating Literature with information, and assuming that the medium is indeed the message.

This is the point of view that leads to the doomsayers' litany of hopelessness -- *reading is no longer relevant; information is far more easily available in other forms; a CD-ROM is worth a thousand books. The book is dead, long live the database! Prepare ye a tomb for the tome!*

All of which may very well be true in relation to pure information, but literature; fiction, poetry, drama; requires soul - that human quality infinitely harder to duplicate than even the elusive goal of AI (Artificial Intelligence). There is no formula that designates soul, no parameters within which it may adequately be imprisoned. And therefore, no way a machine can emulate it. At least, not in the foreseeable future.

Film, television, videos, computers, the fax, the modem... email; the whole Information Revolution. We can't spin around three times chanting, 'I divorce thee. I divorce thee. I divorce thee.' and expect them to just disappear. For better or for worse, we live in the final decade of the most revolutionary century in human history, and there is no going back; we are married to the changes which have overtaken us -- and so are our children. Whether or not we like the society we have helped to create is irrelevant. It exists -- and I happen to think that in any but the most emasculated form, must continue, artistically, to evolve. This is true for both adults' and younger readers' fiction.

Just as the growth of civilisation transformed the myths, epics and sagas of the Oral tradition into the medieval poetry and drama; just as the printing press, and then the growth, in the 18th and 19th Centuries, of an educated middle-class, provided the catalyst for the development of the novel itself, and just as universal education produced, as one of its by-products, an explosion of 'popular fiction', so we see a continued, gradual evolution in the way stories and truths are told.

Now that evolution is set to go into overdrive.

Today's youth, the under-twenties, the 'post-Spielberg' generation, are the first generation for whom Literature in its written form is in danger of becoming an anachronism. They experience the world first-hand, as-it-happens. They ' interact' with it from the safety of their desk or lounge chair, or the comfort of a cinema seat. Emotion, information, story; it surrounds them and absorbs them. If Literature is to speak its magic to them, it must reach them where they live, and move them beyond the limits of mere information and superficial plot. And to do so, it must adopt a form which allows for interactive reading.

There can be no doubt that our perceptions are influenced by what we see constantly about us -- or on the screen before us -- and this is especially true for our perception of what constitutes effective narrative.

The sophistication of modern film techniques, the artistic vision of the prominent popular directors such as Steven Spielberg, George Lucas, Ron Howard and Francis Ford Coppola and the inventive genius of the whizz-kids at Industrial Light and Magic have blurred or even obliterated the distinction between audience and participant which existed in the films (and, importantly, in the literature) of earlier generations.

And it is not just the high budget movies, with their special effects, intimate camera angles and protagonist's-eye-view of proceedings. Consider the documentaries and new broadcasts and their 'be-there-as-it-happens' approach to wars, disasters, sporting events and even violent crimes. Today's young people are carried (via satellite) to the very rim of the erupting volcano or into the midst of the latest student riot in Seoul; they fly down the straight at 300 kph with the touring cars (courtesy of 'race-cam'); with no particular sense of wonder or disorientation, they may travel down a major artery along with the optic-fibre micro-camera and watch a heart beating from the inside, or see that same heart beating beside the hands of a surgeon during a sensitive by-pass operation.

Conditioned by a paternalistic political and religious system, a parent-dominated regime at home and a teacher-centred, authoritarian school hierarchy, readers of my generation -- and innumerable generations before mine -- found it perfectly appropriate that the narrative-style of the books we read was author-centred; full of exposition and authority. We were passive observers, a receptive audience.

Intellectually, habitually, the post-Spielberg generation is a generation of vicarious participants -- not passive observers. This is not a good thing or a bad thing, it is a fact, and it serves little purpose for us, as writers, reviewers, educators -- or parents, to look back towards the supposedly halcyon days of our own youth and the style of literature which then held sway and bemoan the fact that today's youth simply cannot (or will not?) read it.

Exactly the form the evolving Literature will take is still unclear, but 'interactive' will certainly mean more than merely allowing the reader to flit electronically back and forth through the text, or choose what the hero will do next. Such suggestions may work for vacuous narratives, but Literature involves much more then manipulation of plot.

An interesting discussion of this issue is to be found in David Farmer's article 'Writing interactively (without getting lost)' [*Australian Author* 28 (1), Autumn, 1996] which discusses the effect of the new technologies on the narrative styles and techniques of the creative writer. Speaking of the interactive manipulation of text, where 'the reader clicks on part of a computer screen, to select one of the options offered by the author', Farmer (1996:22) asks the question, 'what happens to a creative writer's ability to heighten tension through the orchestrated flow of his or her work... ?'.

Apart from the wholesale reproduction of written texts in electronic form, the best that appears to be on offer in the near-future as literature on the Net or even manipulating CD-ROM technology, is a more sophisticated electronic variation of the eighties children's book phenomenon 'Choose Your Own Adventure' -- or perhaps an evolution along the lines of 'Choose Your Own Adventure - And Add Bits'. In print, this genre lost its appeal quite rapidly, due to the (necessarily) shallow nature of the 'tree-fiction' construction of the narrative, and its inability to develop credible characters or sustain any serious themes.

Except as a method of dissemination of the finished work, then, the communications revolution is not throwing up any serious alternatives to the traditional way of telling stories in print, even if -- as I suggested earlier -- the environment it is creating is having an influence on the narrative method actually employed by writers.

Electronic books, improved screen-technology and gigabytes of portable memory may allow for the expansion of the scope of any story -- for the inclusion of such peripherals as movie images of scene, or even characters, or the detailed historical background, or scientific rationale behind a particular plot -- even the facility for the 'book' to read itself to the 'reader' -- but ultimately it is the narrative method of the novel itself which must change.

The changing perspectives of multiple narrators, a cinematic manipulation of time sequences, the shift from the 'close-up' of the first person voice to the 'wide-angle' of the third person, the manipulation of different media -- the list is endless, but the aim is to place the reader at the centre of the experience, not on the outside, looking in.

Perhaps what will evolve will be something of a hybrid between film and novel, or film and novel and CD-ROM. Almost certainly it will move beyond the printed word... But we kill too many trees anyway.

I have steered clear, in this paper, of any discussion of the effect of new technologies on the notion of copyright. This is an area which many regard as the real threat of the electronics revolution to the future existence of writers, as the lack of protection of intellectual property has the potential to remove the writer's only real source of income -- the payment of royalties -- destroying the ability of many to follow writing as a full-time, or even part-time occupation. Ways must be found of ensuring the rights of authors in this regard, or of devising some other form of remuneration for creative artists whose work is so easily and cheaply disseminated and appropriated. Otherwise, we face the prospect of having no new writings to disseminate, and economics will have achieved what war and repression -- and even TV -- could not.

This achieved, the challenge for the creative artist, writing in the era of the information Super-Highway is exciting -- providing he can pedal fast enough to keep ahead of the on-coming traffic.

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THE IMPACT OF THE NET ON CHILDREN'S LITERATURE: POINTS OF VIEW

A Topic C listserv discussion with Suzette Boyd, James Henri and Zoe Lake...

From: "Teacher Librarian - Strand C" <tlC@itec.com.au>
Organization: Methodist Ladies' College
To: tlc@itec.com.au
Date sent: Thu, 6 Jun 1996 15:29:45 EST
Subject: Lit on the web
Priority: normal

Hello out there!! Has anyone else having trouble today getting onto the papers. I've just registered for this strand and would like to comment on the recent CBC conference in Brisbane. As far as the CBC goes the Internet doesn't exist. This conference only occurs once every 2 years and yet again this year there was no Internet room available, no discussion, papers or the remotest mention of how the web can be or is being used to promote/publish Children's literature.

At MLC our Literature Club is embarking on its own Homepage production, where our students will be doing book reviews, author interviews, best books lists and also publishing student's writing. They have been taken to some of the best Literature sites on the web, via our Library Home Page <**http://www.mlckew.edu.au/library/**> and they are all learning Hot Dog.

If anyone would like to ask a student how they have used the web, I have registered Zoe, one of my Lit Club students for this conference and she would love to answer your questions.

Suzette Boyd

From: "Teacher Librarian - Strand C" <tlC@itec.com.au>
Organization: Charles Sturt University
To: tlC@itec.com.au
Date sent: Thu, 6 Jun 1996 15:51:00 GMT-10
Subject: Re: Lit on the web
Send reply to: jhenri@csu.EDU.AU
Priority: normal

Hi there Zoe

Why do kids want to do Children's Lit on the WWW? And do you still 'do' real books?

Thanks for joining in!!

cheers james henri
jhenri@csu.edu.au

From: "Teacher Librarian - Strand C" <tlC@itec.com.au>
Organization: Methodist Ladies' College
To: tlc@itec.com.au
Date sent: Fri, 7 Jun 1996 13:47:12 EST
Subject: Literature on the web
Priority: normal

After trying for three days to register, I have finally done it!!

My name is Zoe and I am a Year Nine student at MLC. I will start by saying that some of the stuff that I have found on the web is FANTASTIC!

BEST COPY AVAILABLE

James Henri asked me: "What do kids want to do on the WWW? Do kids still 'do' books?"

If you mean read books, of course we do! I don't think that kids will ever give up reading books, even if they can go and see the movie. The books are often a lot better than the movies. Here are some examples. I saw the movie of *The Power of One* at school. I thought that it was the best movie that I had ever seen. Then I read the book. I discovered (after two chapters) that the book comes out so far ahead of the movie, the book makes the movie seem terrible! Also with *Forrest Gump*, I saw the movie, then read the book - exactly the same thing happened. When making movies, there are some things that the directors cannot make with special effects, but those things are a pushover for your imagination. They end up having to leave out half of the story (unless it is a TV series) because there is only a certain amount that you can show in a two hour time slot.

I think that basically, kids want to be able to find cool stuff about their favourite books and authors on the web. One page that is great for that is in the *Oz Literature Web Guide*. (sorry, I don't know that address). It has a list of the best books, Awards listings, and info about movies and TV shows which are based on books, eg. *Jumanji* - a new movie starring Kirsten Dunst and Robin Williams. At <**http://spebbn.spe.sony.com/Pictures/SonyMusic/Jumanji/board.html**> you can actually PLAY the game as they did in the movie. It is like a board game where you answer riddles to move your game piece. It is FANTASTIC!!!! It includes a screen saver for downloading, behind the scenes info and other cool stuff.

Oz Lit's WWW Literary Links takes you to heaps of Literary sites around the world as well as everything about AusLit. It has book reviews, Literary news, lists of Authors, competitions and writers' resources on the web.

The Authors Page includes email addresses of overseas authors (mainly adult authors). For example, the Michael Crichton page includes summaries of his books and info about him.

Ashley Freeman asked me "Is Literature on the Net both fun and worthwhile?"

My answer is: ABSOLUTELY! The web is a good way to read literature because, as you are looking up one thing, you 'accidentally stumble' on something else that is interesting. There are so many literature sites, each one of them is interesting in its own way.

If anyone is studying Shakespeare - I have the site for you!!

The complete works of William Shakespeare is at <**http://the-tech.mit.edu/Shakespeare/**>. It is a list of ALL Shakepeare's plays in categories - Comedy, History, Tragedy and Poetry. It has great information about him and his works. It is definitely worth a look.

Any questions can be written to my email at <lakezh@mlckew.edu.au>.

By Zoe Lake

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TOPIC D

THE INTERNET AND TL'S ROLE IN THE SCHOOL:

POSSIBLE, PROBABLE AND PREFERRED FUTURES

THE INTERNET AND TL'S ROLE IN THE SCHOOL: A POINT OF VIEW

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1995 was the year of Windows 95, 1996 is shaping up to be the year of the Internet. The media hype attached to advertising the advent of the Internet has been running thick and fast and hype is exactly what it is. Teacher librarians need to BE AWARE and BEWARE in determining their future role. Integrating new technology needs to be a gradual process.

There are two major factors to be considered. Firstly, there needs to be a strong interest and a commitment to the new technology and its potential for integration into the curriculum. Secondly, there needs to be an adequate and sustainable funding allocation.

Trends in information technology usage are on the increase in the home. It has been predicted that by the year 2000, 90% of homes will have access to a workstation that provides CD-ROM and Internet use. This leads to a substantial increase in global connections for our students. Barry McIntyre (1996) espouses the importance of a comprehensive IT plan for the school. Things to be considered are accessibility, training and development, implementation, curriculum integration. An information system strategy should focus on what the school is doing, what it hopes to achieve, where it is coming from, how the school will approach it, how IT will be managed and how the school will normalise it (McIntyre, 1996). The world of the Internet is not a panacea but a communication and information tool.

Change in the IT world is occurring at a rapid rate and across all sectors of society. It is opening up a range of challenges for teacher librarians to get a handle on the processes. Thinking and planning for 'virtual' organisation and access will be paramount. Our curriculum programs are moving strongly towards student performance outcomes and teacher librarians need to be proactive in the linking of information networks/technology to support the instructional process within the curriculum design.

In summary -

Possible Futures
- interactive, multimedia delivery of individualised curriculum programs
- high powered effective information retrieval
- electronic publishing in multimedia format.

Probable Futures
- 2nd fiddle to IT staff in the school
- collaborative approach maybe with division of labour (communication/ technology/information)
- facilitators and trainers
- lots of time taken to 'play' to develop competence and confidence to be comfortable with the technology.

Preferred Futures
- leadership - big picture outlook incorporating curriculum design and integration of information services
- collaborative partnerships - electronic integration in a 'virtual' world
- integrated curriculum - requires an organisational transformation at the school level
- information capabilities amalgamated with communication capabilities
- effective information access and retrieval
- global learning
- teacher librarian as facilitator/navigator and trainer (application and opportunities)
- integration of information literacy and technological competency across the curriculum.

Curriculum organisation will need to focus on the changes afoot in how the curriculum will be delivered. Additionally, curriculum development is moving towards a student-centred, inquiry-based approach to instruction coupled with cooperative learning and critical thinking and problem-solving. Also, school organisation will need to change dramatically in light of the link with the Internet to facilitate global learning.

The role of the teacher librarian has the potential to change significantly over the next five years. To embrace these changes teacher librarians will need to develop a vision for the future delivery of information services within their school environment. They will need to prioritise the demands and duties to reflect the direction of the school, but also may need to be a catalyst for change.

REFERENCES

McIntyre, Barry. (1996). 'The information network: integrating electronic information into the curriculum.' (Unpublished paper). *Management strategies: navigating new technologies*, School Library Association of Victoria conference, Bendigo, 24 May 1996.

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THE INTERNET CHALLENGE: USING TECHNOLOGY IN CONTEXT TO MEET EDUCATIONAL GOALS

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Picture the following:

Slick salesman-type person, broad smile on his face, open arms, extolling, 'Technology is the answer, of course. Now what was the question?'

Technology for technology's sake. This is a common lament in schools and education circles. And we aren't alone in this. Businesses and government agencies also suffer from the same problem: technology being touted as a saviour and end in itself, the answer to our prayers. In many situations, technology is being implemented out of context. And, if that wasn't enough, now we have the same situation in relation to the Internet:

Slick salesman-type person, broad smile on his face, open arms, extolling, 'The Internet is the answer, of course. Now what was the question?'

Clearly, we must turn this around. The focus needs to be on THE QUESTION - what do we want to accomplish in schools? And how can we use the Internet and other technologies in effective and efficient ways to reach our goals?

THE INTERNET CHALLENGE

School library programs and teacher librarians face exactly the same challenge: to use technology in general and the Internet specifically as a means to an end and not as an end in itself. Let's call this the 'Internet Challenge' -- to use the Internet in meaningful ways to help achieve educational goals.

This Internet Challenge provides two tremendous opportunities for teacher librarians. First, teacher librarians are in an excellent position to meet this challenge within the library program itself. Teacher librarians can focus on central library functions of information services and information skills instruction and using the Internet meaningfully to meet those goals. Second, and even more importantly, teacher librarians can play a key role in helping the entire school to meet the Internet Challenge. Teacher librarians' experience with curriculum-focused information services and integrated information skills instruction places them in a direct and unique position to help classroom teachers integrate the Internet into everyday learning and teaching.

Meeting the Internet Challenge means continually focusing on the fundamentals of vision and purpose of the library program. The mission statement from *Information Power* provides an energetic and essential vision for library programs: 'the mission of the library media program is to ensure that students...are effective users of ideas and information' (AASL/AECT 1988). In an information society, there is no mission more important. Teacher librarians can accomplish this vital mission by providing essential information services including access to collections, help, referral, reading guidance and teaching essential information literacy skills as a full process, not just location and by access to resources.

In terms of technology and the Internet, it's not 'the library' and 'technology,' it's the LIBRARY **including** all information systems and resources used for learning and teaching. Students and teachers shouldn't think about the search for information in terms of using 'the library' and then 'the Internet,' we want them to think about using the LIBRARY including the Internet. Today and in the future, the concept of LIBRARY should encompass the full range of information resources -- electronic, full-text, print, networked, stand-alone -- whether accessed through the school's local area network or Intranet, a central physical place called the library media center, or the global Internet.

While this concept of a unified LIBRARY is not a new one, there is a tendency to lose sight of it among the emerging information systems and the ever-changing technological environment. In addition, our own library systems sometimes work against the unified concept. For example, rather than a common access point and interface to **all** electronic resources, many libraries still have an online catalog (OPAC) separate from the periodical indexes and full-text resources and separate again from access to the Internet. Furthermore, in most cases, these various electronic resources are only available in the physical library center.

A unified LIBRARY system doesn't necessarily require a common search system across all resources (although that might be nice), it 'simply' requires that the LIBRARY system encompass easy intellectual and physical access to **all** resources and networks that we would include under the concept of LIBRARY. A unified LIBRARY system permeates the entire school and includes the full range of information resources available to students and teachers. Commercial library systems need to foster and encourage the LIBRARY concept by providing mechanisms for combining local and global systems along with site licensing agreements that allow us to offer LIBRARY on every workstation in the school and community.

When teacher librarians meet the Internet Challenge, they move to fulfill the concept of LIBRARY. Using the Internet in context addresses the needs of the library program and the entire school. LIBRARY is more than just resources and technology. LIBRARY means a full program of information services and information literacy skills instruction. In terms of the Internet, LIBRARY means teacher librarians using the Internet within information services and as part of information literacy skills instruction to ensure that students are effective users of information.

The remainder of this paper offers a discussion and examples of how teacher librarians can meet the Internet Challenge and fulfill the vision of LIBRARY within each of these two functions -- information services and information literacy skills instruction.

INFORMATION SERVICES

Information services refer to the full range of services and activities available to students, teachers, administrators, and the community. Information services include (Eisenberg and Berkowitz 1988: 87-98):

- resources provision
- reading guidance
- direct information
- curriculum consultation
- curriculum development.

Resources provision service refers to providing space, materials, and equipment to meet curricular and personal needs. Meeting the Internet Challenge (using the Internet in meaningful ways) for resources provision includes providing tools that help students and teachers to link Internet resources to curriculum needs, providing workstations and connections to the Internet, and sharing resources and building cooperative collections across regions.

Reading guidance service focuses on promoting literacy and guiding students and teachers in reading and materials selection. Meeting the Internet Challenge for reading guidance includes identifying and arranging for teachers and students to become involved in special collaborative Internet projects (eg. *Live from Antarctica*, *MayaQuest*) and providing opportunities to interact with others globally through email and discussion groups.

Direct information service involves providing assistance in locating and retrieving information or direct information as required. Meeting the Internet Challenge for direct information service includes providing students, teachers, and others direct help, referral, and question-answering service to put them in touch with the specific information they need.

- Curriculum consultation service relates to providing advice on the use of information, resources, and technology in curriculum. Meeting the Internet Challenge for curriculum consultation includes using email and electronic discussion groups to communicate with teachers and help teachers communicate with each other (locally and globally) on curriculum-related matters, professional issues, and decisions.

Curriculum development service refers to collaborating on the design, development, and evaluation of curriculum, particularly those units and lessons integrating information skills instruction. Meeting the Internet Challenge for curriculum development includes joint efforts to link curriculum and assignments and the plethora of resources, projects, and services available through the Internet, and also to identify and develop relevant Internet-based curriculum projects.

Clearly, the Internet can be used in a range of ways that improve information services. The key is to focus first on the services and users' needs and then consider the Internet in context.

INFORMATION LITERACY SKILLS INSTRUCTION

Information literacy skills instruction offers another powerful opportunity to meet the Internet Challenge and fulfill the concept of LIBRARY. Over the past 20 years, library media professionals have worked hard to move from teaching isolated 'library skills' to teaching integrated information skills. Here too, the key word is 'context', and effective integration of information skills requires two contexts:

1. the skills must directly relate to the content area curriculum and assignments or students' own needs, and

2. the skills themselves need to be tied together in a logical and systematic information process model.

Meeting the Internet Challenge requires teacher librarians to focus on both of these contexts.

The first context is real student need -- in curriculum, personal life, or work. While it is certainly possible to learn skills in isolation, practice and research confirm that people learn best when the use and purpose are clear. Students can probably learn to communicate via email or to access a WWW site, but they will eagerly engage and internalize these skills if they see how they directly relate to their school assignments, personal interests, or work requirements. Electronic mail, for example, takes on meaning if students realize that it can help them to work with students from another state or country to complete a project for social studies. Accessing a WWW site is more than a novelty when it relates directly to answering homework questions or provides information for a project or report.

The second, and often overlooked, context is the information problem-solving process itself. Computer and telecommunications technologies are supposed to extend our abilities to solve problems. That sounds fine in the abstract, but what does it really mean? Practice and research tell us that when people understand how specific skills fit into an overall model or process, the power and usefulness of the specific skills are expanded. Yes, students recognize the value of using email for communication, but this takes on new meaning when they realize that email can help them to better define the task of an assignment by being able to interact with teachers and group members. Task definition is step one of Eisenberg and Berkowitz' Big Six information problem-solving model (Eisenberg & Berkowitz 1990).

Chart 1 offers examples of how Internet capabilities can be placed in the Big Six information problem-solving context. The chart is easily modified as new Internet functions and resources are made available or as teachers and students find new ways to apply existing capabilities. The power of the Big Six model is in its ability to provide an adaptable context for learning and teaching

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Internet skills -- in fact, for learning and teaching any electronic networking or information technology skills. (For a more detailed discussion of computer skills for information problem-solving see Eisenberg and Johnson, 1996).

Chart 1: Internet Applications in a Big Six Context

Big Six Skills	Internet Applications
Task Definition	email, listservs, Internet Relay Chat, MOO, CUSeeMe
Information Seeking Strategies	network navigation (WWW, Netscape, Lynx, Gopher), email, listservs
Location & Access	WWW navigation (Netscape) and search tools (Lycos, Webcrawler, Yahoo, Archie, Veronica, etc.)
Use of Information	download, upload, ftp
Synthesis	HTML and WWW page creation
Evaluation	email, listservs, Internet Relay Chat, MOO, CUSeeMe

CONCLUSION

In the rush to use new technology in general and the Internet in particular, the focus has centered primarily on implementing hardware and software and teaching commands and capabilities. Schools and businesses are already investing considerable amounts of money, time, and effort on getting connected to the Internet, but the central question -- how can we use the Internet in meaningful ways to help achieve educational goals -- is often unanswered. Teacher-librarians are in a unique position to meet this Internet Challenge. And if they do so, they not only establish a broad and encompassing concept of LIBRARY, they also go a long way to fulfilling their mission of ensuring that students are effective users of ideas and information.

REFERENCES

AASL/AECT (American Association of School Librarians and Association for Educational Communications and Technology). (1988). *Information Power: Guidelines for School Library Media Programs.* Chicago, IL: American Library Association.

Eisenberg, Michael B. and Johnson, Doug. (1996). 'Computer Skills for Information Problem-Solving: Learning and Teaching Technology in Context', ERIC Digest, EDO-IR-96-04, Syracuse, NY: ERIC Clearinghouse on Information & Technology. Located at <**gopher://ericir.syr.edu:70/00/Clearinghouses/16houses/CIT/IT_Digests/Computer_Skills**>.

Eisenberg, Michael B. and Berkowitz, Robert E. (1988). *Curriculum Initiative: An Agenda and Strategy for School Library Media Programs.* Norwood, NJ: Ablex Publishing.

Eisenberg, Michael B. and Berkowitz, Robert E. (1990). *Information Problem- Solving: The Big Six Skills Approach to Library & Information Skills Instruction.* Norwood, NJ: Ablex Publishing.

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FIRE AND SPARKS: EVOLUTIONARY QUALITIES!

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In my little treatise 'The Evolution of the School Library' published in *Emergency Librarian* in late 1992, I suggested that the changes that lead to the modern school library would eventually take us into a phase that I called 'Creative'. For those of you who may have missed the earlier parts, let me offer this brief review. (A chart outlining this concept has been appended.)

The **Reactive** Library merely responds to the demands of its environment by providing a service that only the librarian fully appreciates. This phase is marked by a tendency to consider the materials to be more important than the people they were assembled to assist. The Card Catalogue and the Annual Inventory were major symbols of its fixation with things. It led, in many schools, to a notion that the computerized catalogue is an ultimate good, and once established will manage nicely without further support. These libraries also have very serious regulations and fines and rules. It is the 'Material Centred Library'.

The **Proactive** Library offers the 'store' approach. It is this service that attempts to sell good things to students usually for their own good. The emphasis is on convincing all the users that there are treasures to be devoured and savoured and they are all free -- assembled for the good of the child and the school. These facilities vigorously boast of their sales (circulation) and their accumulated good works. They like to advertize through displays, leaflets, lists and competitions. The good book and the good video and the good kit are all food for delight and promotion. This is the 'Client or Child Centred Library'.

The School Program drives the **Curriculum** phase. This agency focuses on the school, the teacher and the learning program of the school. The student is merely part of that program. It is pledged to meeting the demands of the instructional program through planning and classroom contact. It is the School Resource Centre and it houses 'learning materials'. It is involved with instructing students to properly use those learning materials to advance their own learning outcomes. It is more concerned with process than with content, helping the life-long learner to acquire the requisite skills to meet the demands of life after school. This is the 'School Centred Library'.

Which brings me to the **Creative** stage that was the ultimate evolutionary stage that the school library could reach. The overstated phases that are suggested above are, of course, all elements of every quality school library program. There are no single stages in this evolution. The Reactive, The Proactive and the Curriculum stages are present in every school library regardless of the extent of its development. It is the Creative that appears to be the most difficult to achieve perhaps because it is the most difficult to define, to establish, to measure and evaluate. The 'Creative, or Human Centred Library' offers me the opportunity to consider the school library, not as a place or a specific tool in the educational establishment, but as an open opportunity for the child to explore the world of ideas through print and pictures, computer databases and now through the incredible world-wide electronic network. This vision projects the library in the school from service station or blip on the electronic information highway into a dynamic learning or information centre. It becomes a school without teachers or formal curricula, without grades or instruction. It is even more relevant today than when I attached the title to it over 5 years ago.

Consider the school as a training ground for students in which they may acquire the skills to fully use the learning centre the library represents. The public library perhaps represents this 'free' learning centre in our society today. It is that institution that we might wish to see as the 'graduate school' of this evolved school library premise. I have been one of those who always challenged the merger of the two libraries citing the apples and oranges dichotomy. Whatever the program emphasis, it is the school library that must be seen as a fundamental prerequisite to a lifelong pursuit of truth. For many people the discovery of the book opens incredible horizons that are closed or obscured to others. I am almost as disheartened when I meet individuals who have come to believe that the book is dead or in serious decline. There is a sense that quality has left the human condition as we try to come to grips with this new information explosion. We may well be on the edge of a new form of human interaction, one that will in time bring even greater complexity and richness to the human condition. At this point in time it seems that much of the new technology has been directed to an 'easy way out', rather than a move to intensify or enhance the human condition. The media in all its profusion and glitz has made us not more complex, but more shallow. There is a kind of materialism that has moved to replace many of those finer sentiments behind society. We see a decline in the family, in personal integrity (in political life for instance), in the spiritual realm and in relationships of all kinds.

It is impossible for the school to do more than mirror its society. The library in the school has only been provided to provide resources and opportunities for students and teachers related to the objectives of that social order. In recent years the provision of quality resources, both material and human, has suffered as governments moved to the fiscal right. The public library has always had to defend itself against the masses. For it is the great democratic whole that would move to reduce its value. Libraries everywhere suffer harm when the mass is consulted. It is only an enlightened creative few who are willing to take the political and social action on behalf of a minority to see this remarkable institution progress. We are engaged in bitter disputes with the 'right' as they assert the need to defend individual values in a collective order. But seeking the greatest good for the largest groups will surely reduce all of us to lesser levels. While elitist values are always scorned they are responsible for the great museums, universities, art galleries, churches and libraries.

We need to create learning centres in our schools that will offer our children the best of the world. And those 'new' electronic tools that have so much to offer will be part of that complete new library of resources.

These are my original words on the **Creative** phase.. ..

This is the school library as 'learning centre' - a self-directed, multimediated resource opportunity for the self-activated learner. Here was that student we expected would emerge from our curricular model. The creative centre would be the place where information would be assembled as that the learner could investigate and experience as he or she desired. Interactive computer terminals would assist in meeting many needs, while print and other media resources would be available in profusion. This is the library in the 'school-without-walls'. This is the library in the 'school-as-brain' where thinking and creative skills are part of every curriculum. Where the curriculum is as fluid as our imaginations can nurture. Surely this self-education concept was part of the reactive library. Books provide ideas for those willing (and able) to use them. The missing ingredient was the commitment of the school to the 'learner' as an individual capable of directing his own growth. They had to be taught to do that. This personalizing function was ignored and we lost many individuals who were unable to grow in a structured, staged educational factory. The irony is that the creative stage is only an outcome of the 'curricular'. If the school can assist its students to be self-directed, lifelong learners then the library in the school will become only one of that student's learning centres or laboratories along with public libraries, museums, personal contacts and all the other learning opportunities that make life interesting.

It seems to me that the gravest error we have committed is to think that others see teacher librarians as important on our own. We can not be seen to be special or we will be treated specially. And that means separately from the whole construct. If we are a part of the educational process or promise, then we must accept the practical political realities surrounding the educational establishment. It may not be all pure, but we may be able to influence the decision makers to recognize the value of our mission. We seem so caught up in advocacy we fail to understand that advocacy has little influence on those who have no real control over power in the school. The object of our concerns -- the child -- has none. His parents hold somewhat more, especially if they join in political association with others. Teachers seldom make policy except through their unions. The Creative phase will not emerge from teachers, students or dynamic groups of teacher librarians. It can only come from the creative spirit of the individual teacher librarian who recognizes his or her own power and mission and moves to make it work! This is not mere advocacy but sheer gall and guts. This is not cooperative planning but direct action. There is fierce arrogance of purpose here. We have long thought that the program was everything. In fact it is the individuals who drive the thing and

demonstrate through the force of their own convictions (nurtured and strengthened by the electric energy of their colleagues around the world) that learning is an individual pursuit supported by a host of assistants in a myriad of forms. We have tried to pretend that the library in the school does not depend on the personality and drive of the incumbent professional. The 'Creative Library' under any of its names will not evolve unless we are able to staff them with individuals who have fire in their bellies and sparks in their eyes.

REFERENCES

Hamilton, Donald. (1992). 'The evolution of the school library.' *Emergency Librarian*, 20 (2), Nov-Dec 1992: 9-12.

APPENDIX: THE EVOLUTION OF THE SCHOOL LIBRARY

Reactive
- Collection
- Organization
- Control
- Management
- Rules and procedures
- Method
- Cool, efficient
- Material Centred

Proactive
- Orientation
- Library-Based Activities
- Displays
- 'The Great Library'
- Colorful, vibrant, warm
- Child/Adolescent Centred

Curricular
- Curriculum based
- Classroom orientation
- Planning
- Teaching and learning tools
- Student/Teacher Centred

Creative
- Learning Centre
- Discovery
- Individualized Learning
- Personal
- Human Centred

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TEACHER LIBRARIANS: THE BEST OF TIMES AND THE WORST OF TIMES

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In recent times, just as in times past, the minds of many involved in the practice of teacher librarianship reflect upon the future of the profession. Future in terms of role and influence; future in terms of being. Could it be that deep in the soul of every teacher librarian lies a dormant existentialist? In Australia there has been debate about the value of the collaborative practice known as CPT. This debate has been initiated by both practitioners and academics. For some this is a debate about form. For others it is a debate about substance. Lurking is the opinion that non teachers could do the job - the T in TL is not essential, perhaps not needed.

There is an irony in the fact that while some are taking the T out of TL, others in the library community have formed a love affair with the pursuit of information literacy. And this quest is not limited to the information professions. Many other professional groups have taken up the cause. The ability to teach information, not just provide it, has become important.

Society at large is gradually seeing information for what it is. In one sense information is like a tidal wave. People drown in it. In one sense information is like oxygen. Without it people cannot survive. There is this inherent contradiction. The great philosopher Ludwig Wittgenstein suggested that it was irrelevant to talk about the meaning of a word or a sentence. The only important question was how is that word or sentence used. Hence the slogan 'don't ask for the meaning, ask for the use.' It seems to me that Wittgenstein's point applies equally to our concept of information. Don't ask what it is, ask what it is used for. In this sense information only has value to an individual if s/he has learned how to use it. A more radical suggestion is that information is a process not a product at all. That is, information is the process of becoming informed.

If schools are serious about information literacy. If they want to forge a school community where both teachers and students are comfortable and competent in using a wide range of information services and products. They will place a priority on the effective use of teaching and learning methodologies that equip learners with the skills of knowledge construction.

Where teacher and students think about the things that they want to learn, and they are provided with basic information skills, their encounter with information is informing. Becoming informed is a struggle of making sense from inconsistencies and incompleteness. Learning is nothing less than self-understanding: reformulating information for oneself.

To the extent that teaching is about researching for the right answer, it is flawed. Quality teaching is about supporting students in their quest for exploration. Through the processes of becoming informed they mature as researchers who grapple with the adequacy of their information sources and their information skills. Such researchers do not investigate information as if it were a needle in a haystack - the answer is there somewhere, the trick is to locate it. Rather their information pool forms a rich laboratory which provides evidence for personal examination. As teachers and students work together to construct knowledge in this way there is a shared understanding that the process of becoming informed and constructing knowledge involve all of the dynamic processes of thinking, feeling and acting.

There is a lack of information equity among today's schools. Some are characterised by information richness, others by information poverty. Poverty might be reflected by a lack of information resources; equally it may be reflected by a lack of opportunity to explore information through appropriate teaching and learning. The processes of becoming informed are not evident. Since such students have inadequate skills to explore information or construct knowledge they are caught in a time warp.

Some schools reflect a generational gap in the process of becoming informed. Typically these schools are those where teachers and their teaching is not underpinned by the teacher's information literacy. Such teachers do not see the need or do not have the opportunity to explore information via the new technologies and in particular from the Net. Often the students are more informed than are their teachers: a case of the blind leading those with 20-20 vision.

Resource based learning (RBL) is a powerful methodology that allows and requires students to learn from their own confrontation with information resources. RBL provides the teacher with the opportunity to tailor the learning laboratory (the information resources, the learning activities, the location of those activities and the expected learning outcomes) to the needs, abilities, and current knowledge of each child.

The thesis here is a simple one. When students and teachers are given the opportunity to become information literate they can take control of their own information destinies. When school communities perceive their obligations vis-a-vis information as that of collecting it (rather like keeping money in a bank) they stifle the development of a process based curriculum. To the extent that teachers see information as something that is passed onto students and not as something that one explores, they crush motivation for learning. Such teachers are likely to maximise the place of assessment rather than the place of learning. When school communities perceive their obligation vis-a-vis information as that of use, (of integrating it into school life) then the use of information by teachers and students becomes the very fabric of the process of being informed.

So how does all this come about? Clearly the quality of learning is in large part determined (a) by the learners access to relevant and pertinent information, and (b) by the desire and determination of the school community to foster information literacy.

In our schools it is the teacher librarian who brings knowledge, of both the information resourcing skills and of the information process, into the teaching and learning programs. Likewise it is the teacher librarian who can address the information needs of teachers and school decision makers. Can we imagine an information literate school community without a teacher librarian? Let's suggest that the T in TL is missing. In this scenario the teaching role is absent. This means that the 'TL' would not be an integral part of the instructional design process. Sure the information specialist could resource teaching and learning but s/he could not be involved in the teaching program. If instead the L in TL were missing, then the skills of the information specialist would be absent. We have all seen the results of this situation. Even with the best will in the world a teacher cannot hope to play the role of information specialist.

Typically, teacher librarians in schools are few in number and, therefore, their influence is limited and most likely to be broad based only if they work in partnership with other teachers. Partnership between the teacher and TL provides the opportunity for greater flexibility in the teaching program and provides greater opportunity for teacher-student interaction and engagement. The opportunity for engagement is critical because it provides opportunity for students to address their information uncertainty. If schools are to give more than lip service to the importance of process then they must find ways to involve the TL in the teaching program. The TL is likely to be the school expert in the information process and is therefore in a position to assess student learning in that area.

Can there be any educational rationale for a reduction in the role and influence of such a key player in the information agenda? It is noticeable that principals of good government schools and those in the private sector are apt to 'sell' their schools by promoting the quality of their information services and are likely to have more, rather than fewer, teacher librarians.

There is a strong case to be made in support of increasing resources that support information services in schools. Not only might we argue for more TL positions we should consider the case for a Director of Information Services. Such a person would have school wide responsibility for managing the whole range of IT and traditional information services that have been developed to support teaching and learning. Furthermore this person would develop a schools information policy and manage its corporate information services. Such a position would be additional to the position of TL.

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Arguments about reductions in information services and teacher librarian positions are usually tied to (a) ideological demands for a reduction in public sector funding or (b) a product orientated view of information. Against these unfortunate arguments we must continue to wage an intellectual war because we believe that:

> ...the richness of the school's library resource services will influence and may even determine whether or not teachers and students are empowered to be independent learners both today and for the rest of their lives. Likewise, the offering of quality library resource services will assist schools in the process of addressing issues of social justice and equity in a meaningful way.
>
> (*Learning for the Future* 1993: 4)

I would also argue that it is politically unwise to consider a change in the name of the teacher librarian. In this time of fiscal 'madness' it is essential that the bureaucrats are reminded that 'librarians in schools' are indeed teachers.

Of course such claims assume that the teacher librarian is a fully educated professional who is able to articulate a strong rationale for his/her place in an information literate school community. Nothing less will do.

REFERENCES

Learning for the future: developing information services in Australian schools. (1993). Melbourne: Curriculum Corporation.

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REVISIONING THE ROLE OF THE TL

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Teacher librarians are facing role ambiguity as electronic information transforms society, economics, politics, education and ultimately their work. They have several choices. They can try to ignore the realities and hope that the 'waves of change' (Morgan 1988) will sweep over them. They can recognize the realities, become paralyzed with fear and get swept about by the tides. They can recognize the realities and move quickly to try to understand the change, construct a vision for their future and ride it through the waves of change. In fact, the preferred choice must be to accept the realities and move quickly to construct a vision that can empower teacher librarians to continue enabling learners to become literate in the electronic environment.

Teacher librarians are in the business of literacy, assisting students and teachers to learn how to access, use and communicate information. The information focus is changing with global networking. In order to have some understanding of how to respond to the changes teacher librarians need to have some understanding of where they've come from and where they are going.

Before libraries of any kind existed, people used physical experience and observation for information and communication. They developed oral traditions of storytelling, memorization of important information and listening skills. With the invention of writing, print literacy skills became important and grew, with the printing press, to be the focus of communication. When electronic forms of communication developed they began to take on more and more importance until the computer and networking completed the move to a focus on electronic communication of information.

Students still need the building blocks of the earlier literacies in order to function effectively in the new information and communication environment. In order to begin to build the information skills needed to effectively use the Internet they need to read, write, think, research, view, represent and present. They must be able to use a wide variety of forms of information to match their age, stage of development, learning styles and needs and available resources.

It becomes clear as you work with global networking that its strengths lie in its currency, its global nature, its provision of experts and vast libraries of information, and its ability to connect people for dialogue and problem-solving. What is also clear is that it cannot provide for all information needs. Students will often find that the information they need is more accessible through print or video or experimentation. Real objects, community resources, print, video, CDROM, and the Internet are required for the unique kinds of information, socialization, aesthetics, and convenience each provides. This means that physical school libraries will continue to exist to support resource based learning. However, the new literacy will preoccupy teacher librarians until they understand it better, have universal access, have clarified teaching and learning strategies for it and have gained acceptance in the educational community as transformational leaders for information literacy.

WHERE ARE TEACHER LIBRARIANS NOW?
WHAT ARE THE REALITIES THAT TEACHER LIBRARIANS MUST FACE?

- Equity of physical and intellectual access does not exist. Global networking on the Internet is changing the information environment. Information is being decentralized globally, making 'everywhere anywhere'. This leads to highly information literate and illiterate groups of people, the illiterate losing out on the better paid jobs. The danger to society becomes a polarization of rich and poor with the middle class disappearing.

- Equity of access to the new literacy must become a priority for responsible governments. The role of the teacher librarian is not necessarily recognized as important to the development of equity of access to this new literacy. The inequity of physical access to computers and ultimately the Internet disenfranchises many students, teachers and teacher librarians.

- The worship of digital information to the exclusion of other types of information creates a danger of illiterates using voice recognition and graphic interfaces, unable to articulate or communicate without the electronic medium.
- The obsession with gaining physical access to electronic information has caused decision-makers to discount or miss the importance of intellectual access.
- The lack of comprehension of the place of Internet use in the information problem-solving process, and the skills , understandings and values required to use it effectively leads to the belief that students can learn how to learn in this environment simply through physical access.
- Teacher librarian training is inadequate in some jurisdictions.
- Training programs for teacher librarians do not always address the total information environment (print, realia, video, CDROM, Internet...).
- The hesitancy of teacher librarians to learn the new technologies and the skills that are needed to access them intellectually and integrate them into programs is slowing down their response to the changing information environment. In a recent book designed to assist teachers with learning about the Internet the authors mentioned teacher librarians in their *Guidelines for Using the World Wide Web in the Classroom* as follows: 'If your librarian knows how to use the Net, he or she may be able to identify quickly some of the best resources for your project.' (Heide 1996).
- Ambiguity creates a tendency towards competition rather than collaboration. The ambiguity of role in the electronic information environment can lead to competition within the school for control of access to electronic information, rather than a collaborative effort, focused on student learning.
- The uncertainty about what information literacy is now, how it should be taught and who should maintain and update the resources and technology can leave these tasks open to the entrepreneurs who can make the best case.
- The networked environment requires transformational change. Teacher librarians can contribute to this process by drawing on knowledge and skills gained in implementing government school library program directives.
- Teacher librarians are in a particularly good position to nurture collaborative working relationships among staff members across the grades and the curriculum by sharing curriculum and instructional understandings with colleagues as they collaboratively plan, teach and evaluate information literacy.
- Teacher librarians can help schools attain equity of intellectual access by working with teachers to help them and their students learn the skills necessary to access and use appropriate resources for information and communicate knowledge ethically and effectively.
- Teacher librarians are naturally expanding their resource manager roles to include professional selection of electronic information. They are selecting appropriate videos, CDROMs, Internet tools, search engines, web sites... to meet school program, teacher and student needs.
- Teacher librarians are developing strategies for information problem solving using the Internet, along with all the other formats of learning resources. They are developing ways to integrate the learning of these skills with program. The *KidsConnect* project sponsored by the AASL and run out of Syracuse, New York is an excellent example of teacher librarians using the global network to help kids solve information problems with the information sources that best suit their needs.

WHERE DO TEACHER LIBRARIANS WANT TO GO?

The realities pose a challenge and an opportunity. Teacher librarians are positioned perfectly to build on their strengths and contribute effectively to the transformational changes in schools. The continuance of the change efforts they are already moving on will make a significant contribution to the resolution of the equity, training and ambiguity issues.

The 'revisioning' of school library directions must take place quickly and must be ongoing, to assure that the modesty we traditionally show about our accomplishments does not undermine us in an era of redistribution of resources towards the electronic environment. Teacher librarians need to create and recreate visions that fit the new realities.

The American School Library Association, the Canadian provincial School Library Associations and the Australian School Library Association have developed excellent visionary documents over the last few years. The American's *Information Power* (1988), Ontario's draft *Information Literacy and Equitable Access* (1995) and Australia's *Learning for the Future: Developing Information Services in Australian Schools* (1993) all work toward constructing a vision for the future for information literacy programs, school libraries, and teacher librarians. There must be, however, a continual 'revisioning' process to keep up with the rapidly changing realities of the electronic environment.

The American School Library Association has recently focused on the most important key to this problem, a clear vision of Information Literacy learning, with *Information Literacy: A Position Paper On Information Problem Solving* (1995). The purpose of the school library is to enable learners to master information problem solving skills. This document defines information problem solving skills, their place in educational restructuring and the role of library resource center program. It provides a vision for schools that focuses first on student learning and how to achieve it in an information environment that includes global networking.

The Ontario School Library Association has focused on the second key to positioning in the networked environment, a clear vision of the role of the teacher librarian and the role of the Library Information Centre, OSLA Draft Position Statement: *The Role of the Teacher Librarian and the School Library Information Centre* (1996). The teacher librarian's role dimensions shift to curriculum development and educational leadership, information technology management and collaborative planning, teaching and evaluating. The content of each of these three dimensions reflects the changing realities by integrating the needs of the electronic environment effectively. This is the kind of 'revisioning' that needs to be ongoing and needs to be advocated.

HOW ARE TEACHER LIBRARIANS GOING TO GET THERE?

Teacher librarians need to do three things to achieve their 'revisions'. They need to lead the way to effective and equitable intellectual access to information within the networked environment through transformational leadership (Hughes & Jackson 1996). They need to clarify their role and support needs to achieve the vision. And they need to market the process and the product within the educational community, particularly to the decision makers. How will we know that they've accomplished their goals?

Teacher librarians will know that they are well on the way to integrating their vision with the broader educational vision when they attain 'critical mass'. By this I mean that they start to get enough people buying into the vision and pushing for it that decision makers catch the vision and integrate it with their vision for educational change. From this they will start to see the problems of equity of intellectual access, resources, support and training being solved. Teacher librarians are rapidly becoming knowledgeable and skilled with the Internet and assisting staff and students to learn to solve information problems with it. Australia has a very active teacher librarian network, OZTL_NET. The US has LM_NET, the BIG SIX, ICONNECT, and KidsConnect. Canada has ATLC Forum and CSLA. In Ontario, teacher librarians dialogue through the Teacher Librarian Conference on the Educational Network ENO. The volume and quality of the dialogue on these and many other listservs/conferences is helping to develop the ongoing 'revision' among those who are connected.

The success of these networks is an indicator of where teacher librarians are along the path to 'critical mass'.

The involvement of teacher librarians within the broader educational networks and networking projects is essential. These networks offer teacher librarians an opportunity to join the dialogue about the future of education, to help build its 'revision' by contributing their vision and their strengths in information literacy learning to the transformational effort. This virtual conference, ITEC Schooling and the Information Highway, is a perfect example of teacher librarians working as part of the learning community to work through the ambiguity and 'revision' for the future.

REFERENCES

American Association of School Libraries. (1995). Information literacy: a position paper on information problem solving. *Emergency Librarian*, 23 (2), Nov-Dec, 1995.

American Association of School Libraries and Association for Educational Communications and Technology. (1988). *Information Power*. Chicago: American Library Association.

Berkowitz, R. (1995). Education for the 21st century: the Big Six skills approach to information literacy. *Impact*, 4 (4), Summer, 1995.

Breivik, P.S. and Senn, S.A. (1994). *Information literacy: educating children for the 21st century.* New York: Scholastic.

Heide, A. and Stilborne, L. (1996). *The teacher's complete and easy guide to the Internet.* Toronto: Trifolium Books Inc.

Hughes, S. and Jackson, B. (1996). The teacher librarian in transformational change. *The Canadian School Executive*, February, 1996.

Learning for the future: developing information services in Australian schools. (1993). Carlton, Vic.: Curriculum Corporation.

McClure, C. (1994). Network literacy: a role for libraries. *Information Technology and Libraries*, June, 1994.

Morgan, G. (1990). *Riding the waves of change.* San Francisco: Jossey-Bass.

Ontario Ministry of Education and Training. (1995). *Information literacy and equitable access: a framework for change.* (A draft document for discussion and response). Toronto: Ontario Ministry of Education and Training.

Ontario School Library Association. (1996). *Draft position statement: the role of the teacher librarian and the school library information centre.* Toronto: Ontario School Library Association.

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THE INTERNET AND THE TL'S ROLE IN THE SCHOOL: A POINT OF VIEW

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The role of teacher librarians with Internet is very similar to the role that they have had with other forms of information such as books, journals and CDROMs. Teacher librarians have to know what information is available; they need to know how to find it; they have to be able to evaluate it; and relate it to the curriculum and the learning processes. They must be able to show staff and students how to find information; assess information and use information correctly. They must provide the best possible opportunity for learning to take place.

In the case of Internet this means library staff must search out useful sites; they must assess these sites in relation to the students and the curriculum. They must provide guides to sites in the form of bookmarks , links on a homepage or produce lists of sites. They must, if necessary, download sites onto the Intranet for use over a weekend, or for speeding up searches during the day. They must ensure a site is available when required, particularly if a lesson or assignment depends on that particular site. This is no different in concept from ensuring that books or journals are available that are crucial to a particular lesson or assignment; or ensuring that a particular CDROM is available and working in the library. Teacher librarians need to be aware of what is available on the Internet. They must inform teachers of email programs or projects running on the Internet that could be incorporated into the curriculum and then assist when these projects are implemented.

Like other sources of information, it is essential that Internet is available in the library and not just in the computer room. By being available in the library this ensures that it is accessible whenever students need it, not just when a class has its weekly lesson in the computer room. This is particularly relevant for libraries that remain open before school, after school and at lunch time, so that students have maximum access to all resources, including the Internet. (Our library is available to students from 7.30am until 10.30pm all week and over the weekend.)

It is important that students and staff see the Internet as merely one source of information to be used alongside books, journals, videos and CDROM. By providing Internet in the library, students can move freely from one format to another and will learn which are the most appropriate sources of information in each circumstance.

Teacher librarians have a responsibility for ensuring that students and staff know about copyright and plagiarism on the Internet and that they can cite information correctly from the Internet.

Students need to develop the skill of handling and managing large quantities of information not conventionally indexed, edited, refereed or authenticated.

Internet is unlike any other form of information in that one is never sure what one has. This adds an entirely new dimension to collection development and evaluation! With books and journals the information does not change overnight. With Internet it is very difficult to know what it is you are providing. You can find an excellent site for an assignment today, but find that it is gone, unavailable or totally updated tomorrow. Data may also have been added making a previous good site totally unsuited for school use.

Teacher librarians are no longer totally in control of their collection. This means an additional responsibility to ensure that sites needed for assignments are checked prior to the assignment and if possible downloaded on a network or stored on a linux box to ensure they remain for the period of the assignment.

This is no difference in concept to ensuring that counter reserve books or journals are available when required. Teacher librarians need to ensure that an appropriate level of security or screening is provided that meets the standards required by a particular school community. This might require Internet filters or student contracts.

A major task in the successful introduction of the Internet is publicity and training. Fortunately, our school as a whole has taken the introduction of Internet very seriously and for the past two years, each professional development program at the start of a term has included Internet training run by library staff. At the start of this term, each academic department had a 1 hour session on the Internet, either browsing the web researching sites previously bookmarked by library staff; or having specific instruction on an aspect of Internet such as ftp or e-mail.

We have also run training for parents. Parents showed considerable interest, but some concern over the introduction of the Internet, wondering what their children were missing out on or being subjected to. We ran a session for parents and often assist individual parents when they require it.

Student instruction on the Internet includes both incidental instruction when students are researching assignments as well as specific Internet training. All Year 8s have instruction on the use of the Internet in the first 5 weeks of the school year. This is followed by numerous assignments that require the Internet to be used, in conjunction with all other sources of information. All Year 10's have one lesson a week for a semester of information technology taken by the library staff. This enables us to ensure that students are competent with all formats of information including the Internet. It ensures that students understand some background theory to the Internet; are exposed to Netiquette; given skills in handling vast amounts of information which is inadequately indexed and authenticated; can summarise; notetake and are aware of proper referencing techniques.

Another form of instruction can come through Internet Clubs run by the library. The initial hard work setting up a club soon pays off. Our committee members sort, check and print out email each day. This was particularly valuable when we received 100 plus items daily at one email address, on one terminal for diverse people throughout the school. The Committee assist other students using the Internet in the library at recess and at lunch, and two Year 10 Committee Members created and are now recreating our Home Page.

Staff unfamiliar with the Internet, need to have an incentive to use the Internet and incorporate it into their teaching. The library can play a very valuable role in this by alerting staff to relevant sites and projects that can be incorporated into their curriculum and then by providing assistance when they implement their program.

The Internet adds another facet to the role of the teacher librarian. It does not mean a dramatic change in concept, it merely adds to their role as the major player in the provision of information in the school.

Keeping up with the rapid changes in technology does require a great deal of self-education and self sacrifice. Reading journals; attending conferences; taking additional academic courses; and using services such as the Internet will eat into your spare time. There will never be enough time at work, and I do not think professional development and training can be regarded solely as the employer's responsibility. Teacher librarians must take responsibility for their professional development, otherwise they will be superseded by some other group who will acquire the necessary skills.

With the added responsibility that the rapid development of technology brings to the role of teacher librarian, I think that the Head of Library should at least be a Head of Department, on a par with other departments like Mathematics, English, Science and Social Studies. It is ironic, with all this potential for teacher librarians, to see the continual concern in school library literature about the possibility of losing the position of teacher librarian in the school. The structure of individual positions in the library may change. There will of necessity be a range of staff with different expertise in the library. This staff structure is likely to include teacher librarians, aides, audio-visual technicians, library technicians and computer technicians. However, I still believe they will require a person with library training in-charge. Rather than reducing the need for the skills of a teacher librarian, I think the need for their skills are on an exponential run. With our range of information related skills: from archives, to children's literature, to online data bases, to CDROMs to routers, to

ISDN lines and fibre-optic cables, and our ability to relate this to the whole school curriculum, I do not know how they would cope without us!!!

However, if teacher librarians are not willing to embrace change, particularly technological change, and assimilate this change into the role of a teacher librarian then they cannot complain when their position is taken by someone else. Without the expanded, all embracing information role, teacher librarians will have no legitimate claim to a future position of Information Manager (or Head Teacher, Information Services, or Director of Information Services), responsible for all aspects of information and technology in the school, which if it becomes a reality, would be an ideal promotional position for competent teacher librarians.

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THE INTERNET & TL'S ROLE IN THE SCHOOL: POSSIBLE, PROBABLE & PREFERRED FUTURES

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It is a brave person who would try to predict the future at any time, but to do so when the topic involves the Internet, is more akin to FOOLhardy. Nevertheless, here follows a discussion of the teacher librarian role of the future.

It may be a sign of inherent lack of imagination, or wishful thinking, that my preferred future is one in which the generic role of the teacher librarian undergoes minimal change. According to *Learning for the Future* (1993:43) teacher librarians are responsible for providing 'a responsive and dynamic resource and information service for the school community'. If a technology such as the Internet can invalidate or even threaten this role, then as a profession we have 'lost the plot'. It is possible to consider each point on page 43 of *Learning for the Future* in the light of the Internet, and confidently conclude that this statement will befit the teacher librarian of the future.

Part of this confidence comes from the fact that the institution known as 'the school' has not exhibited many signs thus far of radical structural or educational change. Given the volume of school reform literature of the past three decades, this is probably neither a popular nor preferred view of the future of education. Nevertheless, the formula of class plus teacher plus classroom still applies to most schools, and whether because of entrenchment or inherent effectiveness, it seems set to survive both the Internet and the millennium. There is no reason why the teacher librarian role should not do likewise.

At this stage of its development, the Internet attracts more attention than other formats of information or technology. The fact that we did not get excited about a conference dedicated to video or CDROM when they were new is an indication of some special elements surrounding the Internet. Its potential application in education has been readily recognised, but actualising this potential involves (or will involve) schools in significant preparation. Before addressing issues of content and curriculum application of the Internet, schools are having to address access issues involving hardware, software, networking, and telecommunications. There are parallels with the beginnings of video use in schools. Today most teachers (and all students) are able to put any video tape into any video player, in any classroom and use it (hopefully to enhance learning). As a teacher librarian looking forward to a future where the same can be said of the Internet, here is a list of preferred Internet developments (in no particular order):

- Greater number of access points throughout the school, preferably on the school network
- Personal access/sign ons for staff and students instead of one school address
- More students with Internet access at home
- Affordable Internet access for those in rural areas
- Better reliability in Internet connection
- Increased bandwidth
- More Internet content of relevance to Australian school students and staff (even if it has to be paid for by subscription)
- Greater standardisation and integration of Internet software
- Seamless integration between local computer-based information services, including library management software, and the Internet
- Refined web authoring software
- Simplified audio and video conferencing capabilities
- Wireless technology to increase flexibility and reduce demands for cabling/ building modifications
- Reduced cost of personal electronic organisers with Internet capabilities
- Voice activated applications available for younger students, and physically or learning disabled students.

Once these issues are resolved, teacher librarians and teachers can re-focus on their primary roles. The following aspects of the teacher librarian's role are taken from *Learning for the Future* (1993:43).

PLANNER:

'Teacher librarians are involved in curriculum planning and school committees.'

Curriculum planning with teachers of the future will involve consideration of Internet resources, from searching, to email to publishing. While continuing to be active participants in the curriculum planning processes of their school, teacher librarians need to be equally involved in school technology and network planning, addressing issues of policy, budgeting, location, access, training, and maintenance. A teacher librarian who keeps an eye on the future, maintains professional reading, and undertakes regular 'visioning' activities can help schools deal with the rapid changes in the area of information management.

TEACHER:

The major role of the teacher librarian is to 'plan, teach, and evaluate cooperatively with teachers to ensure the effective integration of information resources and technologies into student learning.'

It is vital that preoccupation with technology not be allowed to diminish the teacher librarian's primary role. The resources and technologies may change, but the 'learner' remains the focus of the profession. Teacher librarians are also charged with the responsibility of promoting the acquisition of information skills. Work is beginning on inclusion of Internet-specific information skills into existing Information Skills frameworks. Eisenberg and Johnson (1996) is one readily available source. Integrating these skills across the curriculum in a developmental approach will be high on the priority list once Internet access issues have been resolved. Teacher librarians using the Internet have not forgotten their role in promoting reading and literature. Existing school Library web pages abound in literature-related links, and there is potential to breathe new life into future programmes using communication activities with other students (eg. Book raps) and authors.

INFORMATION SPECIALIST:

Teacher librarians provide training and specialist assistance to students and staff using technology and information resources.

In the near future, schools and teacher librarians will have to address training and empowering the second wave of Internet users. These are usually the less technically interested, those less inclined to 'play' or learn by trial and error, and who will resent this machine if it wastes their time. In the past, the step of the Information Process of major concern to school library users was 'Locating', especially in under-resourced collections. Teacher librarians of the future may well despair of their students ever developing sufficient competency in 'Selecting' to deal with the world of the Internet.

SELECTOR OF INFORMATION RESOURCES:

The biggest issue in selection is the fact that the 'collection' as we have known it will broaden dramatically. It will no longer be possible to 'approve' or 'select' every item of information coming into the library. It will also not be necessary to purchase information 'just in case' it might be needed. The range of formats, authors and points of view represented in the collection will be much broader than is possible at present. Increasingly selection will mean filtering, re-packaging and validating information on behalf of users who do not have time to select for themselves from the total package of internetworked information which faces them. Given the enormity of such a role, one wonders how teacher librarians will have time to undertake this task, and how long before professional information selection agents (either electronic or human) may offer services in this area. McKenzie's

(1996) discussion of Internet information quantity versus quality, concludes that 'pay-for-service is an idea whose time has come'.

MANAGER OF INFORMATION RESOURCES:

Teacher librarians 'provide access to information resources through efficient and well-guided systems for organising, retrieving and circulating resources'.

Organising (cataloguing) and retrieving Internet resources requires teacher librarians to apply the skills of their craft (librarianship) albeit using some different tools. One could debate the relative merits of competency in Dewey and HTML editing, but fundamental concepts such as subject access, structured systems of organisation and user needs continue to apply. Circulation needs special consideration when considering the Internet. The extent of Internet access within the school will influence this issue. Extensive distributed access will usually mean some mechanism has been developed for students to save information to disk (or laptop). If not, printouts or loan diskettes will need to be made available. In a wider sense, circulation could be taken to mean a form of selective dissemination of information, where the teacher librarian circulates web site addresses or messages to staff or students known to have an interest in the subject.

MANAGER OF HUMAN RESOURCES:

McKenzie (1994) talks about the future Media Specialist as Pilot, Information Mediator, IT Manager, and Curator. I would argue that as no role has as yet been deleted from the existing teacher librarian role statement, in most cases someone else needs to take on the IT Manager role for the school. Very few teacher librarians are trained in the hardware, networking and software support domain of Information Technology, and it is rarely possible to take on this role without sacrificing elements of the existing role statement. The Information Services team of the future should include teacher librarians, technical staff, and perhaps information specialists/cataloguers. Technical staff will be involved in researching, obtaining quotes and selecting hardware and software to meet the school's needs, as well as setting up school-specific, subject-specific and user-specific network profiles. Trouble shooting and assisting users with technical problems, maintaining networks, stocks, software updates, passwords, printers, maintenance and repairs will keep these staff busy. Schools intending to publish on the Internet might examine their need for graphic design, presentation and public relations expertise.

REFORMER:

One possible future to consider is that the Internet has the potential to dramatically change the way education is accessed by students in the 0 - 15 year old age bracket. It is difficult to picture the change in community attitudes needed to see a 'School of the Air' style education accepted widely. Visions of our students working on an individualised basis, at home, in the flexible scheduling or attendance modes now available in the post-compulsory sector, raises real questions about socialisation, diversity, employment trends, family and community life. Nevertheless, there is a strong probability that the increased networking of classrooms will result in increased individualisation of education delivery.

As teacher librarians, our profession is founded on a belief in the importance of collaboration, of active and resource-based approaches to learning. Perhaps the major contribution teacher librarians can make in the future is to use the Internet as a tool to show others the value of these approaches. Teacher librarians have the potential to move their students, if not their schools, towards a future which makes the most of opportunities offered by technology, within a context of critical educational change.

REFERENCES

Learning for the future: developing information services in Australian schools. (1993). Carlton, Vic.: Curriculum Corporation.

Eisenberg, M. and Johnson, D. (1996). 'Computer Skills for Information Problem-Solving: Learning and Teaching Technology in Context.' ERIC Digest March 1996. Available WWW: **<gopher://ericir.syr.edu:70/00/Clearinghouses/16houses/CIT/IT_Digests / Computer_Skills>**.

Lupton, P. (1996). Information technology and schools: the training needs of teacher librarians. *Access.* 10(2): 23-26.

McKenzie, J. (1994). 'Libraries of the future.' *From Now On.* Available WWW: **<http://www.pacificrim.net/~mckenzie/libraries.html>**

McKenzie, J. (1996). 'Info-Glut, Info-Garbage and Info-Treasure.' *From Now On.* 5 (6), May. Available WWW: **<http://www.pacificrim.net/~mckenzie/libraries.html>**

Moore, P. (1995). 'Creating the Vision - Learning theory and the curriculum.' Australian School Library Association, 14th Biennial Conference, Fremantle.

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SOME BEGINNING IDEAS

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When I was asked to provide some conversation starters concerning the different ways in which the role of teacher librarians could develop, I was immediately reminded of a statement made many years ago by a Canadian educator named Wilkinson - and, no, my grey cells cannot surface his first name!! He said something like 'libraries exist through no inherent right or cultural axiom. They exist because in the past they have formed an acceptable response to social challenge.' By extension, teacher librarians exist because their role ties them inextricably to acceptable responses to social challenges. We may well wish to argue that Wilkinson's statements reflect a narrow approach to the many reasons for the existence of libraries; I'm proposing, however, that we accept that narrowness and ask ourselves about the nature of social challenges which are before us and to which we may, as professionals, be able to respond. By dwelling in those possibilities for a few moments, we may discover a way to map our preferred professional future.

The Internet is, I believe, one of the social challenges with which we, as professionals, must be involved. Its very presence beckons us to learn and communicate with ideas and people in areas of the world and of thought that we might never have explored before. How can this not affect us? Those people and their thoughts can be a part of our world instantaneously - but not necessarily a part of the world of those with whom we are in daily contact. It was not so very many years ago that our 'knowledge' experiences could be shared with others around us. We could discuss the latest Johnny Carson show or the 6 o'clock news broadcast with our neighbours and our colleagues - and in that discussion, we could debate and analyze what it is we 'all' saw. In our current lives, with our 1000 TV channel capability and our contact with a possible 45 million Internet users, our knowledge experiences are more highly fragmented than ever before. We can now view news coverage 'whenever' - we can 'graze' through the information sources - but, where do we turn for a discussion or interpretation about what we saw?

Not only is there a social challenge concerning fragmentation of our knowledge experiences but there is also a challenge about how we process that knowledge. That challenge has been surfaced by Derrick De Kerckhove in his book, *The Skin of Culture: investigating the new electronic reality*. De Kerckhove, who worked closely with Marshall McLuhan for many years, tells us that with television and computers 'we have moved information processing from within our brains to screens in front of, rather than behind, our brains'. Images from monitors do not compete with books but, in fact, suggest something entirely different than books. They propose, he says, a 'collective imagination' as something we can actually consume but in which we do not directly participate. De Kerckhove illustrates this conclusion through a description of an experiment he was asked to participate in at Simon Fraser University. There, brothers Steven and Robert Kline wired De Kerckhove to a computer and attached various skin-response devices to his forehead, heart, left mid finger and left wrist. He was given a joy stick and ask to indicate whether he liked or didn't like what he saw during 20 minutes of a variety of television images. De Kerckhove was sure, at the end of the experiment, that he had not had enough time to respond to any of the images; the Kline brothers showed him that he had, in fact, responded. De Kerckhove's conclusions were that 'television talks primarily to the body - not the mind' and 'if the video screen has such a direct impact on my nervous system and my emotions and so little effect on my mind, then most of the information processing was actually being performed by the big screen'.

Put that together with another of De Kerckhove's statements students no longer appear to 'scan' a page of printed text and graphics in the same way we, as adults, do - that is, left to right and top to bottom of the page. Instead they seem to 'throw their eyes' on the pages as if, he says, 'they were transferring their visual strategy from the television screen to the text'. This style of processing information is extremely different from the processing which we, as teacher librarians, tend to use. It leads us to questioning how we can teach scanning the text... notetaking... synthesizing... if the very way in which students read and process information differs that drastically from the way in which we, as adults, read and process information. As I've written and said many times, it appears as if we have a new twist to 'English as a Second Language' and that is 'Information Processing as a Second Language'.

It seems to me that, with just the preceding small amount of information, there are three social challenges which we, as teacher librarians must meet if we are to fulfil the role of 'acceptable response to social challenge' so concisely scribed by Wilkinson. We are faced with:

1. fragmentation of information experiences;
2. information processing occurring outside of our own brains; and
3. information processing which differs between generations.

With this in mind, I'm proposing a preferred future for teacher librarians in which:

1. teacher librarians learn how our students process information from the variety of information sources available and learn how to assist ourselves, students and educators to become consciously competent in the application of information literacy skills. This is no small feat; there is much research to do in this area and a great deal of learning - fortunately, we are in the profession of life long learning;

2. teacher librarians become comfortable with the new information technologies - so comfortable that we can model information gathering and processing to our staff and students. I cannot put Peter Cochrane's words out of my mind - 'Imagine a school where students can read and write and teachers who cannot and you have a metaphor for the Information Age in which we live' - and I want teacher librarians to play a pivotal role in making sure that Cochrane's metaphor does not continue to have a place in our professional and teaching reality;

3. teacher librarians continue to pay respect to our roots by acknowledging that we have a strong and honourable heritage in the words 'teacher' and 'librarian'. These words presuppose that our purpose is to work with others in the teaching and learning of information literacy processes using whatever sources are available to us - and that information literacy does not mean access only - but that it covers the range involved in 'making meaning' from all the information derived from all the information sources. These words presuppose that we are not mired in the world of print only and that we are not approaching other sources of information with a 'there be dragons' fear in front of us. These words presuppose that use of the Internet, that modern day answer to Pandora's Box, is a use that we value, that we want to learn about and that we want to work with others to learn and teach about. Those two words also presuppose that, in this profession of teacher librarianship, we are continuing the movement away from concentration on physical access to information toward concentration on intellectual access to information - from an isolationist and protectionist library with walls to a curriculum-integrated 'real' and virtual library; and, that

4. teacher librarians continue to work with our audiences to gain an understanding of this view of who and what we are - that is, information literacy specialists who work with others to develop students who are critical and creative problem solvers. This does not negate our role as one of the connectors to great literature - it enhances that role.

How do we get to this preferred future - when in the world of our everyday reality, economic pressures are arguing against our very existence? How do we prevent the probable role - of being non existent - cautioned by writers such as David Jenkinson from the University of Manitoba:

> At any given time within a province, school libraries will be assigned varying degrees of priority and support by the department of education. Even allowing provincial recognition of school library development as an item of paramount importance within its educational program, this favoured position can be meaningless when viewed against the backdrop of the department of education competing with other departments for both status and tax dollars. Additionally, the provincial education authority shares its power with local school boards which, when acting within the parameters of their delegated responsibilities, can strongly influence the development of school libraries.

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I believe that there are many ways in which our preferred role can overtake the probable one; for instance, teacher librarians and various other educational partners can continue to:

1. ensure that all audiences understand the contribution teacher librarianship makes to the development of students and, therefore, to societal challenges - we, and others, need to ensure that this is an ongoing conversation in which we engage and that this conversation includes all partners in education. Like it or not, I believe that the conversation must also involve the economic cost to society of NOT developing students who are informationally literate;

2. ensure that a school district-wide 'infrastructure' is in place to protect the integrity of student access to information and the development of informationally literate students; such infrastructure could include adoption of the Association for Teacher Librarianship in Canada's (ATLC) 'Students' Bill of Information Rights'. It should also include such things as policy, staffing regulations, staff development, position descriptions, developmental supervision, appropriate facilities, appropriate resources and appropriate staffing related to what we expect of teaching professionals; and

3. ensure that, as professionals, we are knowledgeable and invitational - that we are learning, we are teaching and we are, always, inviting our partners to be together with us in this.

I do truly believe that we are in a time most perfectly suited to who and what we are as professionals. I am unsure that those who balance budget lines acknowledge this. My belief is that we are able to influence - and that we must influence - because we are not only an acceptable response to some of society's challenges - we are the perfect response!!!

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FUTURE INFORMATION PROFESSIONALS: A PERSON FOR ALL REASONS?

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ABSTRACT

This paper reports an as yet unfinished Delphi investigation of information management futures. Too often the personal aspect of information provision is overlooked in the light of the dramatic development of technology. However, behind every technological advance there is a provider whose role it is to source, organise and disseminate the information gleaned via that technology.

While the answer to this problem will be different for everyone, some considerations are becoming increasingly important. Each has significance as we move forward. Clearly Internet is now an important medium and information management needs to include this device. Online data is increasingly providing an economical means of accessing large quantities of data though not necessarily such as is precisely what our individual clients require.

Perhaps the answer lies in two directions, both needing consideration. On the one hand we need reliable equipment and perhaps a new generation of electronic data technicians to make that equipment and its networking reliable. Secondly we need sound software support that allows integration of data into Internet useable formats, incorporates the net itself, communicates readily yet is able to be catalogued, refined and maintained in a client based easily managed way.

Keywords: artificial intelligence, information management, Delphi.

INTRODUCTION

One problem that besets the modern investigator of the information field is that of definition. What's in a name? someone once asked. But there is an important issue here. Terminology can sometimes obstruct the view and sideline effective consideration of this important issue. In the educational context one often hears of teacher librarians (TLs) or media specialists. In the more open field of business one can occasionally refer to Information Manager or Data Manager in much the same context. For the purposes of this paper I am perhaps trying to be all things to all people (a very uncomfortable position I believe) and refer to a person whose primary task it is to collect, catalogue and disseminate effectively information from many sources to users with many needs. I will attempt to most usually refer to such a person as Information Manager, more as a means of finding common ground than as a specific statement of vocational nomenclature.

The field of information provision is a changing one. Canadian TL Lucinda Lockwood put it rather succinctly just recently:

> WHO'S STRESSED!!??? Ha ha:>). Seriously now, it used to be (in the 'good ol' days') that once a librarian knew the system (Lib. of Congress or Dewey and Sears) and the process, she had it made. Things were static, and new acquisitions required no further skills to employ them. Now, librarians have to do all of the traditional stuff, and learn new information technology, too! PLUS: she has to do her own trouble shooting; teach the patrons how to use the information (she didn't have to teach patrons how to use a book!); lobby for more money to buy more technology, as well as for traditional, print resources; apply for grants for more money . . . ; then there's advocacy, wherein she has to justify her role as a professional in the school. Stress is the word for it!

For many years her outline, though highly simplistic, was fairly accurate. Life for the information provider was simple and straight forward. The 1990s have changed all that. Today we live in an information rich world. One only has to wander around the endless tracks of the World Wide Web to be convinced that we live with a virtual information overload.

Oh what a tangled web we weave, when first we practice to perceive.

WINTER

Winter chills bring winter ills (or to quote a fellow professional, 'If you lot don't shut up you can get out of the nice warm library!').

For the present specialist the task can seem enormous. Jamie Mackenzie (1995), in his electronic article, *Libraries of the Future*, summed up a modern library mission in the following way:

> The mission of the library media program is to ensure that students and staff are effective users of ideas and information.
>
> 1. Provide intellectual access to information
> 2. Provide physical access to information
> 3. Provide learning experiences that encourage users to become discriminating consumers and skilled creators of information
> 4. Provide leadership, instruction, and consulting assistance in the use of instructional and information technology
> 5. Provide resources and activities that contribute to lifelong learning
> 6. Provide a facility that functions as the information center of the school
> 7. Provide resources and learning activities that represent diversity.

The task is large and in the winter of our days can seem beyond us. New forms of data provision can at first glance seem to meet all our dreams, but in the cold light of installing the newest CDROM (not compatible with our existing computers), or finding that one elusive piece of information during a fruitless all-night session on the Net, the trees can indeed seem bare.

One further consideration deserves mention. The often quite considerable gap between administrative expectations and their actual financial contributions. Blow out in information supply, largely due to the advent of the information superhighway, has caused a massive shortfall in data provision at an institutional level. Faced with a super highway, most institutional drivers are equipped only with Mini Minors! Modern educational establishments not only need heavy-hauling semi-trailers to travel this highway but they also need some means of sifting through all the goodies these trucks can bring home. Too frequently, institutional administrators, very well used to the old days continue to provide only the finance for the mini's but expect the delivery of a Kenworth!

> I see the information specialist as a broker of sorts. With the volume of information readily available increasing rapidly, the individual information consumer will need an increasing amount of assistance to locate, evaluate and synthesise the information he/she needs. If schools shift from a content delivery to a generative curriculum model (as the vast supply of information allows), the information specialist will play a critical role in helping to design and implement the curriculum.
>
> (Hird 1996)

The boom in information urgently needs to have similarly 'boomed' finance in order to provide the means and the processing necessary to capitalise on new information sources and the wealth of information available.

Now is the winter of our discontent.

SPRING

New life springs from the cold earth, the information professional feels the first stirring's of a new era - a new day of excitement dawns.

Knowledge is power, so they say, and the information managers of the future are certainly going to be responsible for a lot more information than have been their forebears. In this regard, they will become information princes, ruling their kingdoms by day and, increasingly in the future, by night also. Information is already becoming a 24 hour-a-day matter.

Leadership is required - leadership in collaboration; leadership in the use of new media; knowledge of sources of information and their characteristics (Haycock 1996). A new day dawns bright an fair. Dewdrops of knowledge bedeck our starry-eyed students as they rush to their ever-loving professionals for pearls of wisdom from the Internet.

One problem facing your information prince though are the difficulty controlling his or her subjects.

Just when the kingdom is running along smoothly and all the kings men are happily smiling at their computer screens full of information, some laterally thinking, non-intellectually challenged individual will be certain to invent some new piece of software or demand some information not currently available and thus throw the whole realm into a ferment. In our current information world one of these subjects upgrading his software on a more or less annual basis is alone sufficient to keep the realm in something resembling constant turmoil. Your information prince then, becomes monarch of all he surveys - a constantly changing and challenging anarchy.

SUMMER

'Tis High Summer and the heat is ON!

In this state of anarchy, the information professional of the future may indeed become something of a Poohbah. Like the devils of the New Testament - their tasks may become LEGION. One way of challenging this state of anarchy is to become Lord High Executioner - off with their heads! However, the problem will remain. Information will continue to be needed. The number of clients will grow, the number of tasks will grow, the number of information sources will grow, the need to check and keep checking each of these sources will grow.

The problems of information provision are even more serious for the educational field where money is less available and yet the need for information is equally as critical. In the school situation the modern provider is facing increasing pressure to be all things to all people, even if they are not trained to be or find it impossible to be.

> Give me a technician or give me death! Our school is packed to the rafters with computers and related technology. Many teachers are good trouble shooters, but our knowledge only goes so far. That's where a specialist must come in. My library clerk knows less about computers than any other staff member in the school, and the library has the greatest number of different applications! How can this happen?!! I love information technology, but glitches such as inadequate technical support will hold us back.
>
> (Lockwood 1996)

In the past, information providers trained to accession material, enter it into a catalogue and then guide users to that catalogue have predominated in the field. In the more recent past, many of these same people have needed to become familiar first with increasingly complex computer catalogue software, then with CD ROMs, then with networks to integrate the two, and finally with Internet and a host of online services. To add to the troubles some face is the penchant for upgrading software at the rate of new versions almost annually. If you run 2 programs, upgrade each and put in place new licences for same, install them on a network of 20 computers, fine. But what happens if you run Windows NT, Win95, a library software utilising MS Access and Sequel Server, Office 95 and MS Works for client work stations, Corel Draw 6, EBSCO Magazine data bases, Internet access and Email as well as a dozen or more CD Rom titles and 50 plus user orientated educational softwares?

Success at this either leads to something approaching Poohbah status or a prolonged holiday in a specially equipped rest home where they hand out those lovely white canvas tee shirts with the especially long sleeves that do up at the back!

AUTUMN

'That season of mellow fruitfulness.'

The problems of winter, the promise of spring, the heat of the summer, all give way to a feeling of optimism and mellowness. All IS well with our souls, we are going to cope with the future, and a bright one it is.

One of the more important issues facing information personnel today is their ability to predict what is likely to be needed in the future by their clients and how such information is to be first acquired and later distributed.

In this regard the information manager of the future will have to be something of a prophet.

Here are some predictions:

- ***2 years from now***
  High speed broad-band Internet access producing real time movies and live camera action and video-conferencing.

- ***4 years from now***
  Early forms of so-called 'intelligent agents' are already in use and it is possible to imagine an 'intelligent agents kit' assembled to order by the librarian in order to create a body of knowledge for a specific purpose and keep it updated. This would involve sampling online-resources at intervals but would need supervision by an information expert. Such software might not quite be new technology but would support the work of information experts.

- ***10 years from now***
  Virtual Reality - virtual trips to inaccessible places with some semblance of reality.
  Development of communications globally leading to immediate access and exchange with partners in other classrooms with different experiences and languages. Access to expertise and experience via realistic 'avatars'.

If any or all of these or any other possibilities are to eventuate, it behoves the information manager of the present and even more importantly, of the future, to be in the box seat, prepared for the contingency, forewarned and fore armed.

ONE SOLUTION

All that glitters is not gold,
Often have you heard it told,
But the intrinsic value of the Net
Can be a darling, can be a pet.

The movement towards a High-tech future in libraries is going to effect in definite ways the physical plant involved in providing educational information to clients. Already we are seeing two moves of some significance. On the one hand, there are a growing number of establishments being built which do not include a formal library or information centre. Rather, information is provided within teaching areas on the basis of being thus nearest and most convenient for users. Information provided in this way is obtained on-line from sources outside the physical establishment.

This raises the issue of control. To what extent is teaching going to be interrupted or adversely effected by access to unrestricted data - information that is not previously selected, tailored and designed for specific needs within a particular institution? In this scenario, where does the role of teacher librarian exist? As an extra class teacher, as a roving specialist or as a member of a new curriculum entity, a new school department - information literacy?

The second move being seen currently is that trend towards Distance Education. While this has many desirable advantages, especially for the isolated students whose geographical location make any alternative very difficult, there is non-the-less some distinct disadvantage for a student's education where active interchange with teachers and other students does not take place. Advances in technology are allowing more and more intercommunication and there are those (Imagine 3 software developer, John Devine, for example) who are seeing a virtual reality situation where no student physically attends a school and where no teacher does so either. In this futuristic scenario, the implications for interpersonal relationships would need to be totally reconsidered.

What is perhaps needed today more than at any other time of our information history is access to the wealth of data available through a single interface and allowing a range of search formats from the relatively simple ones needed for our children through to the complex ones required by industrial researchers and businesses.

Such a package would need to support Internet fully and integrate with it. It would also need to be supported by sound knowledge and on-site technical help in terms of networking, etc. This could become a joint venture with several organisations, too small to allow budget for one person, sharing a technician.

Possibly this is the key. Costs involved in data provision are rising to unprecedented levels. Unless there is a growth in shared resources, data is quickly going to become too expensive for smaller establishments whether educational or business. We may see considerably more of the 'haves' and 'have nots' problem, or we may see a new era of shared resources and co-operation. In the future, will we be driving Kenworth's or Mini's??

REFERENCES

Haycock, K. (1996). Email discussion, Delphi Round 1 10.4.96

Hird. (1996). Email discussion, Delphi Round 1 9.04.96

Lockwood, L. (1996). Email discussion, Delphi Round 1 9.04.96

McKenzie, J. (1995) Libraries of the future. *From Now On*, electronic journal at <**http://www.pacificrim.net/mckenzie/ libraries.html**>, visited 9.11.95

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TOPIC E

CREATING AND MANAGING A LIBRARY WEB PAGE:

THE PRACTICALITIES

MANAGING A WEB NODE

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This paper is being provided on the WWW at <**http://www.csu.edu.au/faculty/sis/misc/messing/sih/TLall.htm**> in three modes: As a paper document; as an Internet document which looks basically like the printed version but can be read on the screen; and as an Internet enhanced document with links to demonstrate some of the points that are being made. The text of all three is essentially the same except for small changes to accommodate the Internet links.

INTRODUCTION

Like most other processes to do with computers, planning and knowing what questions to ask, are important facets of getting a web node up and running. Some people do argue that what makes the web such an exciting instrument of information exchange is the lack of controls and standards. That may be true from the whole perspective, although my personal view is that some degree of order is much better than total anarchy, but it certainly isn't true from the point of view of managing an individual node. Without proper planning, a great deal of time and energy can be wasted. The end result will almost certainly be some degree of disappointment.

At least five different areas are of particular significance in this process. They include the:

1. skills required;
2. hardware and software requirements;
3. planning process;
4. pitfalls to avoid; and
5. maintenance requirements.

Failure in any of these areas can end up in something that becomes less effective than it should. One of the things that rapidly becomes clear is that embarking on such a project is usually a team effort. Very few people have all of the skills and more importantly, the time, to be able to do it alone.

SKILLS

Publishing on the web is really not that mysterious. It is a fairly straight forward process. Despite the fear that many people have that it involves some form of programming, the reality is that it doesn't!

What skills are required?

First and most definitely, foremost, is an understanding of the concept of hypermedia. In particular, the use of linking for 'navigation' purposes. This is not a difficult concept and using hypermedia systems such as the web will certainly give one a feel for what is happening. While providing links is the part that gives all the flexibility, it is also the part that can result in disorientation, confusion and sometimes frustration. This user disorientation has been a widely reported phenomenon of using hypermedia information systems. The literature is plentiful but luckily, there are some simple things that can be done to minimise this problem.

While some people may debate my choice of second most important skill, I'm convinced that the sites that attract the most initial attention are those which have been designed by people with a good graphic design sense. Note that this does not necessarily involve drawing skills. Graphic design can be applied to ordinary type as well as images. Very often this involve a particular member of the team to actually design layouts and graphics. Getting noticed is the first step to being listened to.

For people who do not have those skills, the web is an excellent teacher. Browsing through sites and making a note of desirable features is a great starting point. You may even be able to use parts of other people's designs.

Finally, there are a group of implementation skills which include being able to mark up a document using the HyperText Markup Language (HTML), configuring software to take the web documents and other small tasks associated with getting the hardware and software to do as it should. As in the case of graphic design, it may well be that there is a person or several people, in the team who can carry out the tasks required. HTML markup is an easy task that can be done using a variety of specialist editors or any word processor. It is actually a throwback to the word processors and text editors of the 70's and early 80's.

HARDWARE AND SOFTWARE

When some people are just beginning to feel comfortable with terminology like Internet and hypermedia, along comes a new set of confusing terminology, Intranets, firewalls, proxy servers etc. All have implications for the way an organisation sets up web access but who really knows enough about them at this stage? There are many things to consider here under the general question of what hardware and software are required to create a web node. The very first issue is one of where is the data for the node going to be placed. In order for the Internet to be able to link to this node, it must be placed on a machine which is called a web server. Most schools would not have such a machine or be in a position to dedicate one of their computers to perform such a task.

An Internet Service Provider is one solution. Some organisations that have close links with particular local schools may have a web server and be willing to give limited access. That is one thing that Charles Sturt University has done for the schools in its local region.

An intranet (publishing just within the local machines of the organisation) is another possibility but it requires both software and more importantly, computing skills that most schools do not have. Hiring a consultant is one expensive solution, staff development is another but also costly.

Being an Internet browser costs, but not like being an Internet publisher. Sometimes these costs are hidden or absorbed by someone else but the cost is still high. Whether the return justifies the cost is a question that must be addressed.

THE PLANNING PROCESS

Having gone down the path of making sure that there are the right people involved and that there are clear goals that the project is going to aim for, the next important step is the planning of the web node.

Content map:

To start with there needs to be a master plan of all the information that is going to be placed on the web and how each document relates to each other. Some hypermedia workers refer to this as a 'Content Map' this may be developed using the traditional structured approach that some programming theorists recommend or it may be like a brainstorming session where things are written all over the place and linked with arrows.

For example, part of the content map for the School of Information Studies web pages would look like Figure 1 on the following page.

The sections marked with the shadow boxes lead to other web pages which are the beginnings of their own structure. The boundary of the system is shown as well as links to documents that are outside. These documents may be part of some CSU web pages or indeed, anywhere in the world. The difference between this type of link and most of the other internal ones, is that those external documents do not provide a direct link back.

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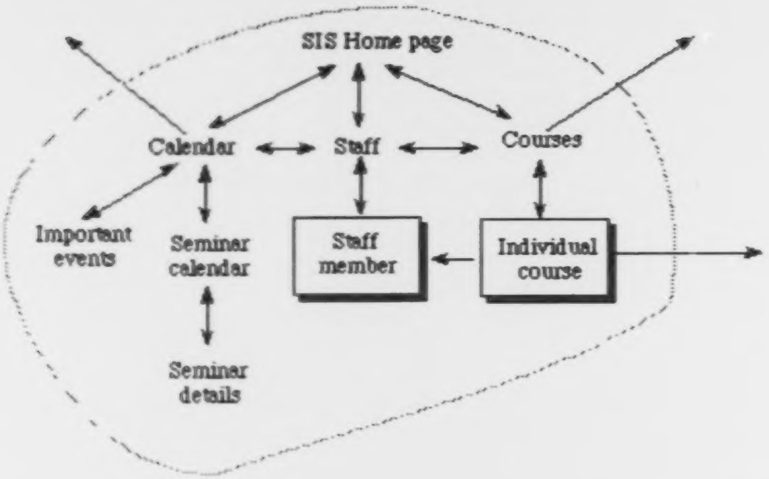

Granularity:
One of the most difficult aspects is working out how to break up the information into appropriately sized chunks. This is called the granularity. Systems where the information is broken down into too many small sections can be frustrating to use and ones which are too large take too long to load for the reader to get the small section of information that they want. There are no hard and fast rules about this, only a general guideline that the final document should be the smallest complete chunk that makes sense to a reader. Usually about 1-3 screens is a reasonable rule of thumb.

Presentation of the document:
The way that the document is ultimately presented depends on what you as the designer expect the user to do with it. If the information is expected to be down loaded and read/printed on the users local machine then it should probably be just a single link that starts the down load process. If you expect the user to read it on the screen then it will need to marked up using HTML to make it reasonably readable. If there is an element of presentation about it then graphics will be involved and these will have to be prepared for display on the web as well as the marked up document.

In most cases, it is important that the documents conform to some sort of style. This usually affects what users expect to see as part of each document rather than the detail about each page. A style template is a good starting point for the creation of new HTML documents.

User orientation:
It is important to consider navigation and user orientation features as part of the document design. Provide links which allow the user not only to retrace the path but to get back to some standard locations such as the main page, an index page or other reference page. Some designers prefer to place these at the bottom of a document, others near the top and as if to be sure, some place them at top and bottom!

There should always be some form of page identification near the beginning which gives the page a title and some indication of where the user actually is in the system. Providing other details such as the timeliness of the information (if it is likely to date) or indications of things that have been added recently are good design tools to improve the user satisfaction with the way it is presented. These are all elements of the style guide for the documents.

PITFALLS

There are lots of traps for the unwary. The following (not in any order of significance) are some:

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Overdoing the graphics:
Large quantities of graphics take up a great deal of space and hence transmission time. There is a skill involved in using eye-catching graphics yet keeping the file size to a minimum. Look at creating thin graphic rulings, small images, using tables or background patterns that add impact without the high overhead of stunning pictures. One technique that sometimes works with both graphics and large passages of text is to create an abbreviated version (thumbnail for graphics, abstract for text) and then provide a link to allow the user to select the full size version. Good design would give the user an idea of file size if it gets to be more than 100K. There are plenty of examples of this technique.

Also consider what happens to the look and function of the document if the user turns autoload of images off. If the only links that are provided are graphical icons without text alternates, then by turning images off, the user may not be able to follow the intended links.

Have someone that knows something about computer graphics advise on the quality of the graphics. Images that look great on the computer that they were created on can easily turn out quite disappointing on the web because simple precautions about colour depth and colour palette were not taken.

Poor file naming conventions:
One of the first things that every web designer needs to do is to develop a systematic method of naming files so that the file name conveys some meaningful information. This is a bit of a problem on IBM clones because of the restrictions on file names but it still needs to be done. Without a system, files can get 'lost' in the crowd and at worst, using duplicate file names will create errors which may not show up for some time. There is also nothing worse than having to go through the links in a large number of web documents and make changes to file names. Murphy's law decrees that no matter how thorough you are, you will miss some of them!

Poor organisational structure for the location of files:
Think about the subdirectory structure and where the files are going to be placed. Putting everything in the one directory has both advantages and disadvantages. Having to edit links because the location of a document has been changed is as tedious and error prone - a chore as that of re-doing file names.

Disappearing links:
When using links to pages that are maintained by someone else there is never any guarantee that those locations will be maintained at their present location. A good management practice is to have a separate document which just provides a list of links that your system uses. These links can then be periodically checked that they still exist. Designing a system and then getting the 404 Fatal error message is quite demoralising. If you are forced into moving some of your pages, provide a 'forwarding' document to let the user know that the location has changed and a link to the new location to take them there.

MAINTENANCE

Creating is the exciting part but unless there is some provision for regular maintenance, the one-off attempts never seem to last long. Mention has already been made of providing currency information (date last modified, last new entry added etc.), trying to let users know what is new and regularly testing links to make sure that they are still active.

It's at the maintenance stage that poor decisions in the planning become evident. Think about maintenance at the very beginning, not after the system is up and running. New documents will have to be added, old ones removed to some archive, links updated etc. Examine the structure of the system to see what sort of procedures need to be followed so that links do not suddenly fall over. What provisions are there for letting the manager know when there are problems? What provisions are there for evaluations or suggesting improvements/changes?

SOME FINAL ADVICE

Setting up any computer information system whether it be a simple database for names and telephone numbers or a web publishing effort that involves many people requires planning and an understanding of what will be involved. While the challenge of 'getting in there and doing it' may be a good motivator, the trial and error methodology is often an inefficient approach. Get good help and learn to ask enough questions so that the implications of what you are doing are clear.

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CREATING AND MAINTAINING A SCHOOL LIBRARY WEB PAGE

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*Whangamata Area School has a roll of 600 students from Year 1-13. It has had Internet access on one computer in the school library for 18 months. The School Library Home Page is located at <**http://mtxlink.co.nz/whangamata/web.htm**>.*

In May 1995, as a newcomer to the Internet, I remember being amazed by the speed and immediacy of the new medium when I received an email message from a teacher in Canberra congratulating New Zealand on winning the Americas Cup, a good 3 days before the deciding race was sailed.

As a result of that experience I wasn't as surprised as I should have been, 12 months later, when I received another email message from Australia inviting me to present a conference paper on 'creating and maintaining library web pages' a good 30 minutes before I had taken my first tentative step towards creating my first ever 'page' for a planned web site for the Whangamata Area School Library.

At that stage the conference was still 5 weeks away and consoled by the knowledge that in the current IT environment 3 weeks is about as long as it takes to become an 'expert' in almost anything, I decided to 'fast track' my plans to create the site. The Whangamata Area School Library site is the result, located at <**http://mtxlink.co.nz/whangamata/index.htm**>.

The following list contains some of the more important lessons learned along the way:

LESSON 1: DON'T DO IT UNLESS YOU NEED TO

If you are to get through those times when the creation of your first web page becomes a frustrating task fraught with unexpected, time consuming, and even marriage threatening complexities, you will need some very good reasons for doing it.

At Whangamata Area School two of the more common reasons for creating school web pages, namely to advertise the school, or to present students' work to a wider audience, were not good enough.

Being the only school in a community that is thirty very hilly and winding kilometres from the next town, the need to advertise is not as strong as it is in most city schools, and students' publishing needs were being adequately met by using existing web sites such as the ones listed below.

1. ***PRESS RETURN Scholastic Network's Online Magazine*** located at <**http://scholastic.com/public/Network/PressReturn1.1/Press-Return.html**>;
2. ***BIG BUS E-ZINE*** located at <**http://www.gulf.net/~ptlg/BIGBUS.html**>;
3. ***KIDPUB*** located at <**http://en-garde.com/kidpub/intro.html**>; and
4. ***KIDS SPACE*** located at <**http://plaza.interport.net/kids_space/**>.

There was however one very good reason for establishing a school library web page, and that was the need to integrate Internet use into existing learning programs more easily and in a way that was less intimidating to teachers and less demanding of their time.

Despite having their awareness of, and in many cases their excitement for, the learning potential of the Internet raised by a one day course on the subject, few teachers in the school were making use of the school's access to the Net through the school library. Lack of time and lack of confidence to locate and integrate useful Internet resources and projects into their existing programs seemed to be the main reason for this.

The Whangamata Area School Library web page is primarily a service which tries to address some of these problems. The idea has been, in collaboration with the teachers concerned, to create separate web pages containing links to a few Internet sites which are directly relevant and suitable to a particular topic and group of students. Although still in its infancy, the service has been very well received by teachers and students and has considerably broadened and intensified demand for Internet access in the school. It has also proved to be a popular starting point for some local parents and children who have Internet access at home.

The ***Room 10 Radical Researchers*** page at **<http://mtxlink.co.nz/whangamata/r10.htm>** was created for a small group of 7 and 8 year olds researching individual topics for a class newspaper. It has proved so popular with general library users of all ages that it will probably remain on the site long after the class newspaper has been published and forgotten.

LESSON 2: UNLESS IT WAS PUBLISHED AFTER 1998, THE BOOK IS OUT OF DATE

Like any other middle aged teacher librarian with an unbounded enthusiasm for the potential of the Internet as a learning tool, my first step in learning how to create web pages was to buy an expensive book about it.

I soon realised that the book, published in 1995, had passed it's 'use by' date some time before the first edition had got to the printer.

The learning , and manual inputting, of lots of strange Hyper Text Mark Up Language (HTML) codes may have been an essential part of 'web authoring' way back in 1995 but things have moved on since then and the best place to keep up is on the 'Net' itself.

Sophisticated yet easy to use programs for making web pages, without having to learn HTML as a second language, are available on the Internet. Two good examples of such programs for Windows are: ***Hot Dog Professional*** at **<http://www.sausage.com/soft1.htm>** and ***Microsoft Front Page***. A good site to get Web page editors for Macintosh computers can be found at the ***Macintosh Based HTML Editor's*** site at **<http://the-inter.net/www/future21/medit.html>**.

A keyword search for 'HTML' will give you more links to web page authoring advice, and discussion groups than you could read in a lifetime. One such site is ***The Art of HTML*** located at **<http://www.taoh.com/index.htm>**.

LESSON 3 : GET SOMEONE ELSE TO DO THE WORK

The construction and regular maintenance of library web pages is a time consuming business and by involving your teachers and students in the process as much as possible you will be doing yourself, and them, a big favour.

Simply asking teachers to comment on the suitability of selected Internet sites to the learning needs of their students has, at Whangamata, already proved a useful first step in getting teachers thinking more pro-actively about using the Internet.

Luke Warm and Associates are a small group of interested students learning quickly how to put web pages together. It is anticipated that these students will play an important role in the wider 'spread' of web authoring skills around the school. They currently update the ***Luke Warm's 'Way Cool' Hot sites*** page at **<http://mtxlink.co.nz/whangamata/luke.htm>** and it is intended that they will eventually takes over most of the technical work involved in creating new pages and maintaining the site. Some of the more entrepreneurial members of this group have hopes of following the students at School in Glasgow Kentucky and construct web pages for local businesses on a commercial basis... having negotiated a satisfactory commission deal with the teacher librarian of course.

TIM,.. I DON'T CARE IF IT BRINGS IN AN EXTRA 25,000 "HITS" A DAY TO OUR SCHOOL LIBRARY HOME PAGE... I WANT YOU TO REMOVE THE WORD "CYBERSEX" FROM THE TITLE IMMEDIATELY!
LUKE WARM & ASSOCIATES
CARR

Encouraging students and teachers to 'bookmark' useful Internet sites when they find them, and then putting the details on a 'Useful Websites' database can provide a very handy tool when looking for good educational resources to link to your web pages.

LESSON 4: CORRECT PUNCTUATION IS NEXT TO GODLINESS

The worst thing about the Internet is the way it has dumped a whole lot of previously unused punctuation into our written language, and is totally unforgiving when we use it incorrectly.

Getting the punctuation absolutely correct the first time can save a lot of time and frustration when putting web pages together. When saving images make sure the file names don't have any upper case letters in them, if your Internet provider's system is the same as mine it could save you hours.

LESSON 5: GET YOUR GIFS IN ORDER

The use of background textures, page dividers, buttons and icons on web pages can be very useful, particularly in providing graphic clues for younger students, or, as in the case of this page , to try and create a serious and sombre academic tone in spite of the text.

Such images, which are freely available on the Internet, should be catagorised and viewed in a way that enables the web author to compare many such images on the screen at once. Use of a simple image viewing and cataloguing program to do the job.

Two useful sites for downloading web page images are: 'Home Page Add Ins' at ***Macintosh Based HTML Editor's*** located at <**http://the-inter.net/www/future21/graph.html**> and ***HTML Stuff*** at <**http://www.det.mun.ca/staff/triche/HTML.htm**>.

LESSON 6: DON'T WORRY ABOUT THE 40 MILLION

If all the Internet hype can be believed there is a potential global audience for the Whangamata Area School Library web pages of over 40 million people! What's more, by the year 2000 (at current growth rates) every human being and a good proportion of the more intelligent animals on the planet will be able to access the site.

Such statistics make it easy to focus attention on using the web page to communicate your message to a global audience, and easy to forget that a lot of the real power of a school library web page lies in its ability to communicate with small groups of people or even individuals within your own school community.

The Whangamata Area School Library web pages at the moment act primarily as a bridge to help particular teachers and their students get into the Internet and use its vast learning resources. Those particular 620 students and teachers are the target audience, and if the other 39,999,380 Internet users want to visit, that's fine...as long as they all don't do it at the same time!

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TOPIC F

WHAT STUDENTS PRODUCE FROM THE NET:

ASSESSING THEIR WORK

STUDENTS ON THE NET: ENHANCING LEARNING THROUGH AUTHENTIC ASSESSMENT

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When we were young learners, chances were we took school work home. Our teachers wanted us to undertake extension work, to prepare for a test, to finish off something we had been doing in class, or perhaps to allow us the opportunity to put together the project of the century. Now if we were fortunate we had a parent who was able to help us. Perhaps we even had an older sibling at the same school who could pass on her/his treasures, together with the teacher's comments. Of course we always did most of the work ourself and therefore our excellent grades were an accurate reflection of our own learning. In our formative years, information was prolific, as it is today. Not only were we skilled at getting things right, we knew where to find the right things. We were resourceful. Even when we had no support we were outstanding.

What annoyed us was the fact that many of our peers used to do as well (or almost as well) as us. This was not because they were as smart as us but because someone else was doing their 'at home work' for them.

I always reckoned that it was unfair that kids parents could do their work for them. It seemed to me that these parents had already had their chance at school. Why was it though that the teachers who taught these kids every day and who must have known that these delights could not possibly produce such minor epics by themselves, continued to give their parents and siblings such glowing reports -- just who were they teaching?

I noticed that my sports coaches were far smarter than most of my teachers. A coach could always spot parents who were trying to relive their childhoods through their kids sport. Coaches did not appear to pick kids on the strength of a parent's reputation. The coaches knew that there were parents in the wings who could probably defeat the opposing team single handed. Yet they picked teams on the basis of the kids' ability and how they learned about the game week by week rather than on the proven ability of a parent.

The advent of the photocopier had a major influence on the quality of work that parents could send in to be marked. First, the photocopier cut down the amount of time that was needed to reproduce the pearls of wisdom that parents could invariably locate. Second, kids who knew about osmosis were able to learn so much more effectively by photocopying huge chunks of books and magazine articles and carrying them about in their bags. The more adventurous would place them next to their beds at night so that the transfer of information could occur when the brain was not otherwise engaged.

In more recent times the arrival of the PC, and associated technology such as CD ROM, increased the opportunities for time saving in the learning process. The ability to cut and paste, to network, and to desktop publish has provided the impetus for dramatic growth in the homework cottage industry.

The advent of the Net, and in particular of the WWW, has extended all of the opportunities for out of school work as well as providing teachers with access to resources that provide the opportunity to significantly enhance in-school work. While the Net provides many rich possibilities for student learning it magnifies the problems highlighted above. (Interestingly I know of one school that has responded to the problem by requiring all homework to be handwritten!!)

de Bono (1987) makes a telling distinction between scholarship and thinking. Scholarship is about reporting on what others have done, whereas thinking is about analysing the work of others and creating a personal meaning or application from it. Do teachers want to encourage scholarship or thinking or both?

Used effectively, the Net provides rich opportunities to create personal meaning, through the processes of exploration and focus formulation. The student explores and forms a focus as s/he moves from seeking relevant information to seeking pertinent information. One can imagine that as the information seeker becomes proficient in the skills of searching on the Net that traditional information tasks that once took weeks might now be completed in a matter of minutes.

The availability of the Net raises significant equity issues. Students who have access to the Net outside school have a significant advantage over those who do not. Should this advantage result in better grades? And again who is being assessed, the student or someone else?

Traditionally, assessment has focused on measuring the quality of the content that has been amassed in response to a question or problem and the way that this content has been presented. The advent of new technologies and the accessibility of multimedia through the Net has meant that a third grader can now put together the definitive work on dinosaurs, or government, or Inuit peoples, or black holes in a few minutes without stopping to think. Furthermore a group of students can significantly reduce their workloads and/or increase the quality of their output by exchanging information or by collaborating on assignments. Not only can students attending the same school do this, but so might students joined across the globe.

I'm not suggesting that collaboration corrupts or that it is not a good thing, but if teachers do not reassess the ways that they recognise and reward student learning then schools are in trouble. It is a truism that what is rewarded will be delivered. This applies to assignments as much as it does to anything else in life. If presentation rather than content is rewarded, students will concentrate on presentation. If process rather than content is the focus of assessment then effort will go into process. If originality is regarded as more important than accuracy, effort will go into being different. So what should teachers assess in this age of the Net?

The point of assessing students sometimes gets lost. We assess students to identify what progress they are making with their learning. Effective assessment will provide appropriate information that will allow the teacher to identify strengths and weaknesses and facilitate appropriate interventions. This means that where possible assessment should be concerned with product as well as process and it should occur during as well as at the conclusion of the learning task.

The process of assessment should not be considered as an after thought but rather should be considered at the point of instructional design. The teachers assessment plan influences the rest of the instructional plan. Diez and Moon (1992) suggest that the following questions determine the assessment plan: What do we want students to know and be able to do? What will count as acceptable performance? How can we ensure expert judgement? How can we provide feedback?

Authentic assessment is designed to provide a reliable measure of a students understanding and may encompass a range of techniques including testing of key concepts, observations, ratings, interviews, questionnaires, and performances. Within this paradigm students become much more involved in the assessment process. They contribute to decisions about what is important and what part of their achievements should be measured. Because of its emphasis on real-life learning and reflection on that learning, authentic assessment changes content and teaching strategies. Teachers become more reflective about how their instructional practice is facilitating learning, and about how well their assessment instruments are measuring that learning and motivating students to want to learn. In the best situations teachers give up their role as a 'director of traffic' and become involved in the learning process. This blurring of the distinction between teaching and learning provides the teacher with a powerful window into the learning milieu. Barth (1990:49-50) makes the powerful observation that:

> Just as potters cannot teach others to craft in clay without setting their own hand to work at the wheel, so teachers cannot fully teach others the excitement, the difficulty, the patience, and the satisfaction that accompany learning without themselves engaging in the messy, frustrating, and rewarding 'clay' of learning. Inquiry for teachers can take place both in and out of the view of students, but to teacher and student alike there must be continuous evidence that it is occurring. For when teachers observe, examine, question, and reflect on their ideas and develop new practices that lead toward their ideals, students are alive. When

> teachers stop growing, so do their students. Unfortunately, schools are seen as places where children learn and adults teach.

The key to authentic assessment in this age of the Net is to relate learning tasks to the real world of the student. When students see that they are not involved in 'busy' work they can be better motivated to learn. Process must be given equal weight to product and students must have some control over the way they reflect upon their learning and on the way it is measured. To the extent that students identify their teachers as learner role models, they are likely to recognise the value of learning as opposed to the value of grades.

REFERENCES

Barth, R. S. (1990). *Improving schools from within.* San Francisco: Jossey-Bass.

de Bono, E. (1987). *Six thinking hats.* London: Penguin.

Diez, M. E. and Moon, C. J. (1992). What do we want students to know?...and other important questions. *Educational Leadership.* 49 (8): 22-23.

Peters, C. W. (1991). You can't have authentic assessment without authentic content. *Reading Teacher.* 44 (8): 590-591.

Wiggens, G. (1989). A true test: toward more authentic and equitable assessment. *Phi Delta Kappen.* 70 (9): 703-713.

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ASSESSING STUDENTS' WORK FROM THE NET: AN IMPOSSIBLE DREAM?

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INTRODUCTION

In asking if assessing students' work generated by using electronic sources, including from the Internet, is an impossible dream I am perhaps hinting at the notion that there is no such person as an original author. Certainly the application of information technology to a piece of writing can mean that the reader is not to know whether the source of the writing is that of the assigned author or whether the work is the result of an electronic sleight of hand. The advent of easy access to electronically-based information has perhaps accentuated a problem which has always been a worry for teachers, viz. is this a parent's work, from World Book, or from the Net.

THREE PRINCIPLES OF ASSESSMENT

This paper aims to examine what constitutes work which can be assessed as an accurate indication of legitimate student work, irrespective of the original information sources, or means of publication. My thoughts on this are shaped by three underlying principles regarding assessment. The first is that assessment should always be part of the learning process of a unit of work; and stemming from this, that the major part of assessment should be completed at school. The third principle requires that there be agreed criteria on which the assessment will be based.

While exploring these principles in more detail I will suggest some whole-of-school strategies which can be employed to monitor student use and application of information resources including electronic information. In all of this I will be suggesting that the processes adopted by schools follow the well-known principles of learning which require a developmental, sequential approach. To achieve this, schools need to adopt assessment practices which can be consistently applied irrespective of current or future information platforms.

SCHOOLS MUST BECOME ELECTRONIC CENTRES

The developments in and rapid take up of information technology require schools to critically examine their position on student use of electronically generated and stored information. This can no longer be postponed as the following indicates. Out of the commercial, governmental, educational and domestic market it is the home market which is currently the fastest growing sector. Of the computers sold to the home, the majority are equipped with CDROMs and now are increasingly being equipped to access Internet. Indications from the USA are that many computers shipped at Christmas time will be equipped with basic videophone hardware and software. Not only will students be able to communicate with experts via email, this additional feature will enable them to converse with and see them in real time.

ASSESSMENT: PART OF THE LEARNING PROCESS

If we take the view that assessment is part of the learning process, and hopefully we do when we link assessment outcomes to unit objectives, then the assessment piece for a unit of work becomes a cumulative process during which the various inputs are monitored, both in terms of student achievements and to provide data for further teaching/learning activities. Thus we are not only monitoring student progress, we are also obtaining feedback on those areas/skills and processes which require further work to ensure student mastery.

An approach which successfully monitors student progress on an assessment item is to build in several check points related to the planned content, concepts, skills and processes. As students move through the levels of schooling, the monitoring of progress at these checkpoints becomes increasingly devolved to the student. Thus, in the early years much of the monitoring is teacher-directed. Later, this is supplemented with a combination of peer and self-monitoring until in the final years of schooling much of the monitoring is self-directed. Decisions on this monitoring process need to be made by each school community so that a uniform approach reinforces and develops the process as students progress through their schooling to the extent that autonomous learning becomes the norm rather than the exception, which would appear to be the case for many students who present themselves at my university.

What I am suggesting here is a process which develops learners who go through the stages of being dependent and then independent before becoming interdependent. This approach has the potential also to develop self-confident students who value and acknowledge the input of others, be they fellow students, teachers, or found sources of information. I am suggesting also that school communities must develop a corporate view of assessment which ensures consistent and complementary approaches predicated on developing positive student experiences and outcomes.

ASSESSMENT: A SCHOOL-BASED PRODUCT

If a school's assessment policy states that students must be given sufficient time and access to resources to ensure a satisfactory level of achievement, as is the case in at least two Australian education systems known to me, then this can lead to some useful spinoffs for students. I suggest that while there will be less assessment done it will be more focussed, as much of it is done in class time, and also that there is a better chance of equity as all students have access to the required resources. An additional spinoff for students should be that, if their learning is being monitored in the ways suggested earlier, then there is a better chance of errors and misconceptions being picked up before the final assessment piece is marked. It follows also that teachers who adopt this process are in a better position to design more relevant student-centred learning experiences and to respond to student needs as they occur.

Implicit in this mode of operation is the requirement that schools be equipped with sufficient resources to support the assessment requirements of all students and thereby ensuring that all students are equally advantaged. It follows from this of course, that those setting assessment must ensure the adequacy and appropriateness of the resources.

ASSESSMENT ACCORDING TO AGREED CRITERIA

Students respond to being given increasing responsibility for their learning. They certainly welcome the opportunity to define assessment tasks and to agree on what represents fair criteria for grading. In keeping with the earlier remarks on developing autonomous learners, it is important that students have a clear understanding of what the assessment criteria requires of them, whether that criteria is jointly decided or prescribed. As use of another's work requires proper acknowledgment there must be criteria on which to judge fulfilment of this practice. Use of such criteria specifically acknowledges to students that it is normal to use the work of others in developing one's point of view on a topic. This practice will remove the absurd notion that all student work will be their own.

INCORPORATING ELECTRONIC INFORMATION

The following suggestions for monitoring student use of electronic information sources in their assessment introduces another requirement for teachers, that of familiarity with those sources which are key to the learning and assessment tasks. Implicit in this is the notion that teachers are knowledgeable not only in the content of their teaching areas but also of the relevant resources for that area. Thus, in addition to selecting traditional information sources, teachers will need to familiarise themselves with those resources which are increasingly available in electronic form.

BEST COPY AVAILABLE

In the case of Internet sources, a useful strategy being increasingly employed by schools is to establish Home Pages for each curriculum area or year level. Specific Web sites are 'attached' to these curriculum or year level pages and students are required to restrict their searching to these sites. This practice is not only pragmatic, it is also ensures equity of access.

A second strategy continues the practice used by learner-centred teachers who encourage their students to present their assessment in various modes. This has lead for example, to audio-visual presentations in addition to the traditional forms of presentation. The use of student Home Pages is a natural extension. Thus there needs to be the facility, training and encouragement for students to publish their work on the Net via their own home pages.

These are just two strategies which I'm sure will be added to by the conference participants.

A CONTINUING ROLE FOR TEACHER LIBRARIANS

While teachers are essentially responsible for their students' learning outcomes, there continues to be an important role for teacher librarians and from this stems an important responsibility.

As information literacy specialists, teacher librarians input to student learning will necessarily be related to advocacy for and support of the implementation of a model of the information process which is consistently developed across the curriculum and year levels. Part of this approach should also involve the inclusion of check points in assessment tasks to monitor mastery of the steps in the information process, a process whose skills continues to expand as the modes of information delivery expand.

The resource provision role in this electronic era presents a major challenge for schools. If schools aren't providing access to the wealth of electronically generated and stored information, then many homes increasingly are, as I indicated in the introduction to this paper. This challenges teacher librarians to become strong advocates for the need to establish adequate access to electronic information sources to ensure that the learning environment is commensurate with the needs of the learners. In turn, teacher librarians will require access to suitable professional development opportunities.

CONCLUSION

In this paper I have adopted a proactive position on the use of electronic information by students for their assessment. I can see no other way forward as students will access the Net for their own purposes and therefore will wish to use it to complete their learning tasks. The challenge for school communities is to develop positive responses to the electronic media to ensure that their students become responsible, autonomous learners who are able to be critically literate with information, irrespective of its format.

There is no place for a piecemeal approach, rather without there being a planned and consistent approach to the use of computer based information, schools will be failing their students.

Once again teacher librarians are given an opportunity for leadership in this area of student learning. Will the chance be let slip by?

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TOPIC G

MEETING THE PROFESSIONAL INFORMATION NEEDS OF TEACHER LIBRARIANS

THE RESPONSIBILITY OF PROFESSIONAL TL ASSOCIATIONS

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Any discussion of the responsibility of professional teacher librarian associations in meeting the professional information needs of teacher librarians needs to begin with a consideration of the educational and information contexts in which we now operate. The 1990s have seen significant changes in both spheres.

The education arena has been characterised by the devolution of many responsibilities from central authorities to schools, with the school and the individual within them being responsible for identifying their own professional needs and putting in place strategies to meet these needs. Increasingly these needs are being met at teachers' own expense and in their own time.

In mid 1993, the Department of Employment, Education and Training put in place a deliberate strategy to encourage professional associations to take the lead in the implementation of new curriculum initiatives. The injection of some 60 million dollars into professional development through the National Professional Development Program (NPDP) has seen the flowering of professional associations and the gradual change in the professional development culture. Teachers are taking control and taking the lead. Another feature of this movement has been the banding together of associations into affiliated bodies with an increasingly powerful political voice. At the national level the National Education Forum is taking the lead and most states have similar bodies.

The changing information context has meant that there is more information, greater access to this information and more diverse ways of communicating this information. It has also meant that there is growing inequity between those in a position to participate in the information network now widely available and those who are locked out through lack of funding or appropriate knowledge and skills.

Within these contexts it is my view that professional teacher associations have multiple roles: firstly as a broker to encourage those who are taking the lead to test and perfect new initiatives and to share their expertise; secondly to participate in the wider educational and information communities to ensure that teacher librarians' views are represented and to recognise trends which will impact on information needs; and thirdly to put in place deliberate strategies to ensure that equitable standards are maintained across the full spectrum of school libraries.

As brokers of professional information, associations must provide forums for the innovators to share their expertise. ASLA has been doing this very successfully for many years through events such as its state and national conferences. It is noticeable that these conferences are of increasingly high quality and that attendance is growing. More recently there has been a trend towards teacher librarians participating in significant numbers in the conferences of other associations and those facilitated by trade groups. These events are complemented by other professional development opportunities at the local level. Around Australia teacher librarians have taken up the challenge and there is an intricate network of special interest groups which often span two or three of the associations which target teacher librarians.

The notion of professional associations as brokers is characterised by beliefs that through collaboration and networking the grass roots members of the association can participate and grow. The role of associations is to foster a shared vision and value system, to recognise innovation and encourage the sharing of expertise as it emerges. Professional association publishing plays a significant role in this area and the ASLA journal *ACCESS*, in particular, is a forum for teacher librarians from around Australia to share their experiences and core values.

The networking is enriched by the dialogue which is now possible through the convergence of computer and communication technologies which allow and facilitate a greater degree of interactivity than was previously possible. The success of associations in this broker role is evident in the leading role association members have taken in implementing new technologies. Whereas in the past Education systems would have directed the takeup and integration of technology into classroom practice, it is now individual schools and teachers who are showing the way. Individual State and Territory associations report an almost insatiable appetite for professional development in this area and in the main it is the associations which are satisfying this need.

The broker role extends to that of recognising when research is needed and encouraging tertiary institutions and others to do that research. Associations do not have the resources to do the research themselves, but they do know from their members what needs to be done. The use of information technology in schools, for example, has sparked a need to justify expenditure and to demonstrate that educational outcomes are enhanced by its use. Teacher librarians often lack the information needed to mount convincing arguments. This may be one of the factors contributing to the widening gap between those with access to information through technology and those for whom technology is still a luxury. The area of research is one where school library associations in Australia have yet to make a significant contribution.

The second and increasingly important role associations fulfil is in forming collaborative partnerships. The importance of participating in the wider educational and information communities has not been well recognised until recent years. The advent of the National Education Forum and the partnerships formed through the NPDP projects have demonstrated the value to be gained through the sharing of information and ideas. These alliances ensure that teacher librarians' views are represented and that trends which will impact on information needs are recognised. Interaction with both the wider education and information communities provide us with a broader perspective.

A Western Australian NPDP project provides an example of the power of these partnerships. The three teacher librarian associations have formed an alliance to promote and demonstrate the use of the Internet at sites where there is very little or no equipment and unskilled staff. This project is part of a larger consortium which includes representatives from all learning areas and other cross curriculum associations. The consortium members are now much more aware of the leadership role teacher librarians are playing in introducing information technology into schools. In return teacher librarians are much more aware of the issues and concerns of other curriculum areas and the ways in which we can work together. There is a flowering of that professional respect which teacher librarians find so elusive.

The third key focus for professional associations is to put in place deliberate strategies to ensure that equitable standards are maintained across the full spectrum of school libraries. Publications such as *Learning for the future: developing information services in Australian schools* and *Information Technology in Schools* are examples of associations leading the way in establishing and promoting standards. All association members have a responsibility to uphold these standards and to actively seek to assist colleagues who are having difficulty in achieving them. The changes to more devolved decision making in schools is increasing the diversity of the standards in school library resource centres. Central solutions and single strategies are no longer adequate as ways to resolve issues. Where once we could lobby governments to maintain standards, we must now deal with a myriad of different issues which are a consequence of local and often uninformed decision making. Each strategy needs to take account of local factors and to be tailored for the situation. We must be flexible and adaptable.

The two national NPDP projects managed by ASLA are further illustrations of an association recognising needs and securing funding to try to influence the quality of learning outcomes in schools by meeting the information needs of teacher librarians. Both of the projects (*Learning for the Future: teachers kit* and the *CDRom Information Skills*) have the potential to change the effectiveness of teacher librarians and school libraries. This will only happen, however, if association members see themselves as part of the process rather than standing back for the association to do something. Members need to see themselves as part of a 'collaborative learning community, the foundation of which is collaboration - working together for common goals, partnership, shared leadership, co-evolving and co-learning' (Cooper and Boyd).

Professional teacher librarian associations have gone beyond the rather paternalistic role they once had as substitutes for declining central systems. They need to recognise the growing individualism

of schools and seek to empower their members to find solutions to issues at the local level. As indicated in their paper it is through this empowerment that networks of excellence grow and spread. Rather than focus on the responsibility of Professional Teacher Librarian Associations it might be more appropriate to ask what members can contribute to their association. Is responsibility the onus of the Association or the member?

REFERENCES

Cooper, C. and Boyd, J. *Schools as collaborate learning communities, global learning communities.*

Information technology in schools: implications for teacher librarians. (1992). Perth: ALIA, School Libraries Section (W.A. Group).

Learning for the Future: Developing information services in Australian schools. (1993). Carlton, Vic.: Curriculum Corporation.

Norma Jeffrey has held the position of National President of the Australian School Library Association from 1994-1996.

MEETING THE PROFESSIONAL INFORMATION NEEDS OF TLs: THE RESPONSIBILITY OF PROFESSIONAL TEACHER LIBRARIAN ASSOCIATIONS.

Anne Plowman
National President of the Australian Library and Information Association (ALIA) Schools Section

The School Libraries Section of ALIA brings together teacher librarians and other interested people who are committed to ensuring our students are successful information users. The group is more than a professional organisation of teacher librarians. As a section of the Australian Library and Information Association, it provides a link to the wider information profession on a national level. Access to networks of information sources and facilities as well as contact with people in all aspects of the information profession is a distinct benefit of membership.

The School Libraries Section has active sections in New South Wales, Victoria, Western Australia and South Australia. Last year there was some discussion about the possibility that ALIA School Library Section members in Queensland may be interested in setting up a Queensland Section. Nationally, there are 868 members of the School Libraries Section.

Each of the states that have formed a School Libraries Section contribute to the ongoing professional development of teacher librarians through an active program of seminars and other professional development activities. These are advertised in *Incite* for the benefit of all ALIA members. Non School Libraries Section members of ALIA are welcome to attend. It is through these professional development activities that we attract new members to ALIA. *Orana* the journal of the School Libraries Section and the Children's and Youth Services Section is one source of professional reading for teacher librarians.

There is also an active National School Libraries Section. To be a truly national section, representing the views of all School Libraries Section members, it was decided to convene National Section meetings by teleconference, with delegates from each state with an active School Libraries Section membership. This model was trialed in 1994, with some changes operating in 1995. Each state is represented at National level by two delegates, who report on the activities of their State sections and give their State Sections views on issues of national concern.

The National section delegates for 1996 are: Anne Plowman (NSW) President; Niki Kallenberger (NSW) Correspondence Secretary; Heather Sabbadini (WA) Minutes Secretary; Margaret Chapple (WA); Anne Hazell (SA); Kris Johnstone (VIC); Nigel Ashworth (VIC). Any School Libraries Section member who would like to bring issues to our attention is welcome to do so, through their State section or direct through correspondence with the National Committee.

During 1995, the National Section looked at ALIA role statements affecting teacher librarian and school libraries, the EdNA project, access and equity issues. We had representation on the Literacy Task Force, the Information Technology Committee, the *Orana* committee and feedback from the Information Literacy Task Force. We responded to the report on "The Information Highway and the nation's schools" and "The New Schools" policy. We have been active in the planning of a School Libraries Section day at the 1996 ALIA conference.

During 1996, National Section will operate by teleconference, generally following General Council meetings, to aid the communication process. All School Libraries Section members are encouraged to participate in the School Libraries Section activities planned for your state, and to actively join the committee in you state. There is no better professional development than that you are actively involved in.

The ALIA School Libraries section exists to provide professional development for its members, although non-members can also attend. The challenge to meet the increasing information needs of the school community falls onto the teacher librarian, in many cases the only information specialist in the school environment.

The professional development needs of the teacher librarian can be many and varied. Through structural professional development activities, the teacher librarian can meet his or her professional information needs. The ALIA School Libraries Section is one such organisation which can assist the teacher librarian to fulfil those needs.

The responsibility of the professional association is to provide opportunities and a structured professional development program to meet those needs. The ALIA School Libraries Section, through its State sections, provides professional development seminars on a wide range of topics pertinent to the information needs of teacher librarians to extend and enhance their teaching and learning, and through that, the teaching and learning of students in their care. These opportunities can address information technology issues, challenge the teacher librarian in the new information technologies, be that satellite learning, the Internet and the integration of the Internet into learning, as well as the more traditional needs of teacher librarians.

Besides the provision of such professional development days (organised by practitioners in the field), other professional development opportunities exist for teacher librarians who are willing to become actively involved in the School Libraries Section of ALIA. Distance from the capital city of the state should not be a barrier. In NSW, there are opportunities for country members to participate in the section through teleconference, receiving funding to travel to professional development seminars, and through the School Libraries Section running seminars in country centres.

Other sections of ALIA also offer professional development opportunities for teacher librarians willing to take up the challenge. They are the Children's and Youth Services Section and the Information Science Section. It is through networking, especially at other professional development opportunities that teacher librarians can extend themselves professionally at another level, as well as raise the profile and image of the teacher librarian.

It is up to the professional associations to take up the challenge to provide worthwhile and challenging professional experiences for teacher librarians, especially at a time when the profession is experiencing change at a rapid rate. The Australian Library & Information Association offers those in the teacher librarian profession those experiences, particularly through the School Libraries Sections.

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RESPONSIBILITY OF THE PROFESSIONAL TEACHER LIBRARIAN ORGANISATION

Rose Dotten
Teacher Librarian, University of Toronto Schools, University of Toronto
& 1995 President of the Ontario School Library Association (OSLA), Canada

and

Liz Kerr
Program Consultant, Learning Resources and Technologies, Northumberland-Clarington Board
& 1996 President of the Ontario School Library Association (OSLA), Canada

The mandate of a Teacher Librarians' Association is probably best articulated within a threefold framework of:

1. Leadership;
2. Advocacy; and
3. Professional Development.

LEADERSHIP

Leadership assumes a strong voice in addressing the major issues affecting the extent and quality of school library programs within a political jurisdiction. Typical activities which an association might undertake would include the following:

a) Preparing responses to Ministry of Education documents. In Ontario, for example, the OSLA has recently completed a response to the draft document, *Information Literacy and Equitable Access*. Prior to that, OSLA responded on behalf of its membership to the new policy document for education in Ontario, The Common Curriculum.

b) Sitting as members of Ministry curriculum writing teams. This recognizes the role which teacher librarians have in integrated curriculum development.

c) Establishing task forces to study issues of importance to the profession. For example OSLA recently approved a task force to accomplish four tasks:

   (i) review teacher librarian qualifications; develop guidelines for revisions; and communicate these to the appropriate audiences;

   (ii) review and define qualifications and job descriptions for School Library Information Centre support staff, including, but not limited to library technicians, library clerks, library secretaries, and volunteers;

   (iii) recommend School Library Information Centre staffing allocation guidelines; and

   (iv) develop guidelines for budgets, facilities, equipment and resources.

d) Gathering or conducting original research in the field of school librarianship. For example, hard data on staffing allocations and teacher librarian statements in collective agreements is useful to local boards and associations.

e) Establishing a Web presence for collecting and disseminating information both for the membership and for the public-at-large.

f) Participation in initiatives which address the broader concepts connected to the information highway; for example, censorship, privacy, plagiarism, universal access, funding, content, security and Netiquette.

g) Responding to members' enquiries and concerns, and keeping them abreast of current issues.

h) Publishing newsletters and professional journals. For example OSLA produces *The Teaching Librarian* its journal on a quarterly basis, and 'Inside OSLA', the newsletter of the organization.

ADVOCACY

A professional organization defends and protects its membership through lobbying, and strengthens and unifies their voice on issues of common importance. Through a strong program incorporating a wide variety of activities, the organization's presence and visibility is highlighted in the educational community. Potential activities could include:

a) Adopting a position statement that defines the role of the School Library Information Centre and the Role of the Teacher Librarian in the Information-based society. See Appendix A.

b) Inviting target groups to association meetings, programs, and conferences to promote understanding of issues and to further their knowledge-base about teacher-librarianship. Target groups could include parents, School Councils, presidents of Teachers' Federations, School Board Trustees, Business and Community Organizations and other political groups as required.

c) Bringing together presidents of local teacher librarian organizations to coordinate advocacy activities. The OSLA conducts a special breakfast session at the annual conference for Presidents of Local Teacher Librarian Associations to share information and plan strategies.

d) Initiating connections with identified educational organizations with common interests, for example, educational computing, visual media, subject organizations, etc. to discuss joint ventures.

e) Advocating school library program goals with teachers, teacher librarians, school administrators and the public by developing information brochures and videos; identifying and distributing articles by leaders in education in support of library programs.

f) Communicating with the various Faculties of Education and Librarianship courses with a view to setting up a structure for creating awareness of and providing information about the association and the role of the teacher librarian.

g) Recognizing exemplary school library programs and outstanding individuals in the field by creating special awards. Some examples in Canada include the Teacher Librarian of the Year Award (CSLA) The Award of Excellence (OSLA), and The Margaret Scott Memorial Award (CLA).

h) Collecting and summarizing membership reaction to important issues and surveying membership for data on such matters as staffing, budgets and other pertinent information.

i) Writing letters to key sources such as Members of Parliament and Opposition Education critics, School Board Trustees, and newspapers.

j) Making presentations to various groups to increase awareness and enlist support for School Library Information Centre programs.

k) Working with our colleagues in other types of libraries in an attempt to gain greater understanding of each other's roles and mandates, and to focus on the field's total strength.

PROFESSIONAL DEVELOPMENT

Keeping the membership informed of the latest technological developments and the current educational theories and practices is an important function of a professional organization. Because emerging technologies are changing the face of information access, and there is a need to process an increasing volume of data, it is critical that the organization plan regular updating inservice opportunities for its members.

Some suggestions include:

a) Organizing an annual conference that addresses various levels of interest and need.

b) Arranging a series of regional workshops to address continuing needs of teacher librarians.

c) Promoting distance education opportunities through the various telecommunication networks and electronic environments.

d) **Publishing monographs on topical subjects and issues that are relevant to practicing teacher librarians. For example; Intellectual Freedom, School Library Automation, Transformational Leadership and the Teacher Librarian, Collection Development in the Virtual Library.**

e) Providing consultation and referral on problems confronted in the daily workplace and in school library information centre program development.

f) Arranging teleconferences to focus on current issues on a provincial, national or international level. The subject of a recent teleconference sponsored by the Canadian School Library Association (CSLA) was 'The Teacher Librarian on the Infobahn'.

g) Develop joint professional development activities with Faculties of Education and Schools of Library Science to broaden the knowledge-base and to influence curriculum development for inclusion of the role of the School Library Information Centre and the Teacher Librarian.

The recently released Industry Canada Information Highway Advisory Committee report states, 'The route to prosperity in the knowledge economy is for workers to make intelligent use of information. Learning must span our working lives. Technology will make that happen.' The professional associations have a major responsibility through active leadership, strong advocacy and marketing, and timely professional development to enhance and expand the learning environment for their members.

APPENDIX A

The following statements are provided to demonstrate the leadership and advocacy roles which the Ontario School Library Association has undertaken on behalf of its members.

OSLA Policy on the School Library Information Centre and the Role of the Teacher Librarian

Whereas emerging technologies are having a major impact on the purpose of the School Library Information Centre and the role of the teacher librarian, and

Whereas information literacy skills are critical for today's graduating students to be informed and knowledgeable members of an information-based society:

The OSLA membership takes the following positions:

1. A full-time teacher librarian is required on a full-time equivalent basis in every School Library Information Centre in Ontario.

2. The name of the facility within the educational institution should change to the School Library Information Centre.

3. Every school in Ontario should develop a mission statement addressing the School Library Information Centre program, staffing, budget, facilities, and scheduling.

4. Adequate clerical and technical staffing and financial support are essential to support the School Library Information Centre Program.

Statement of Purpose for Ontario's School Library Information Centres

......core of a life-long learning community.....

1. The School Library Information Centre exists to facilitate the acquisition of information literacy skills which students need to become independent life-long learners in an information-based society.

......teacher librarians and teachers collaborating....

2. The School Library Information Centre program is based on collaborative planning and teaching by teachers and teacher librarians in order to develop and implement curriculum incorporating resource-based learning in accordance with the Ministry of Education and Training policies, guidelines and resource documents.

.....traditional and emerging literacies.....

3. In additions to incorporating the new and emerging technologies, the School Library Information Centre program continues to promote print literacy and the love of reading as integral parts of information literacy.

.....balanced collection of learning resources.....

4. The School Library Information Centre collection is developed to meet the needs of the school population and is evolving toward a balance among locally housed resources, community resources, and global resources. These resources may be accessed in person or through telecommunication networks from schools, homes, public libraries and other local/global locations.

......linkages and partnerships......

5. The School Library Information Centre program ensures linkages and partnerships with other information providers both in the local community and in the global community.

Position Statement on the Role of the Teacher Librarian

1. Curriculum Development and Leadership. The teacher librarian will:

1.1. Co-ordinate the design, implementation and integration of a school-wide information literacy* skills program to enable students to become independent life-long learners.

1.2. Develop a strong team approach with teachers to provide training and support as they assume more responsibility for teaching information literacy skills within integrated curriculum.

1.3. Collaborate with teachers to develop and implement long and short range curriculum plans.

1.4. Implement the resource-based learning strategies of all Ministry of Education and Training and Board generated curriculum documents.

1.5. Assume leadership roles on school and board level curriculum committees.

1.6. Pursue professional growth and technological updating through inservice, attendance at conferences, professional reading, courses and personal study.

1.7. Provide leadership in incorporating new and emerging technologies into resource-based learning programs.

1.8. Train and support teachers in the use of technology.

1.9. Initiate and engage in program advocacy.

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2. *Information Management*. The teacher librarian will:

2.1. Plan, develop and manage equitable access to information resources and technology within the school.

2.2. Develop policies and procedures for the selection of learning resources which meet curricular, informational and recreational needs.

2.3. Instruct teachers and students in the ethical and legal use of information.

2.4. Implement anti-racism and ethnocultural policies related to information access and use.

2.5. Plan and develop partnerships with community information providers.

***3. Collaborative Program Planning and Teaching*.** The teacher librarian will:

3.1. Establish and implement a collaborative planning process with teachers.

3.2. Plan, teach and assess resource-based learning units with teachers.

3.3. Assess and evaluate student learning based on pre-established learning outcomes.

3.4. Help students develop efficient and effective learning strategies and organizational skills.

3.5. Support learning for special needs students.

3.6. Encourage students to develop respect for people, materials, networks and equipment.

3.7. Identify and recommend a variety of learning resources to support curriculum.

3.8. Design and manage the physical environment to reflect the program.

* ***Information Literacy***: The ability to successfully complete a complex problem-solving process that requires students to define the need for information, determine a search strategy, locate the needed resources, access and understand the information they find, communicate the information, and evaluate the conclusions in view of the original problem.

This position statement was adopted by the membership of OSLA at the Annual General Meeting, February 8, 1996.

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RESPONSIBILITY OF PROFESSIONAL TEACHER LIBRARIAN ASSOCIATIONS

Gerald R. Brown
Consultant, Library Media Services & Vice President, International
Association of School Librarianship (IASL), North Winnipeg, Manitoba, Canada

From the perspective of the International Association of School Librarianship, I believe that there is a tremendous role for people to think, talk and work together. As electronic media connect us around the world, we have the opportunity to clarify the role of the teacher librarian in the modern information age, and to work collectively toward that goal both within the profession, and with colleagues in all other related fields.

IASL has a home page which you might like to check out at your leisure at <**http://www.rhi.hi.is/~anne/iasl.html**>. Our web master is Anne Clyde, and she does a magnificent job of keeping us connected. The home page is growing, and more and more links are being provided.

IASL was established 25 years ago, with a mission to provide an international forum for people interested in promoting effective school library media programs as viable instruments in the educational process. Our membership is worldwide. It invites all to join who are interested in or working in the field.

This year, we have been taking a closer look at our structure, and at determining the directions for the next decade of association growth. These issues will be discussed and examined at the 25th Anniversary Conference to be held in Ocho Rios, Jamaica, 26 July - 02 August 1996.

One of the most important ways that this association can help its members is through the network of people helping people. This is accomplished by:

1. Inviting national and local associations to name a regional associate to the ASSEMBLY OF ASSOCIATIONS. Communication is carried on during the year to determine critical issues for consideration, to publicize each other's activities, and to suggest personnel for various types of projects as they are travelling from country to country, or as they can be connected electronically. There are special sessions at our conference for the delegates to hear about programs in other countries, to make personal connections, and to report on successful advocacy work. Any association is only as strong as its membership. IASL counts on member associations to help develop a global perspective, to jointly focus on major issues as we combine and focus our energies.

2. Dianne Oberg and Kaye Steward have created a document of *CONNECTIONS: School Library Associations and Contact People Worldwide* which is an invaluable tool in tracing colleagues for various types of research, visitations, and communication. Copies are available from the IASL SECRETARIATE, c/o Ken Haycock, Executive Director, Suite 300, Box 34069, Seattle, Washington 98124 - 1069 (FAX: 1 - 604 - 925 - 0566 or email <iasl@rockland.com>.

3. Publication of a quarterly NEWSLETTER, edited by Peter Genco, who attempts to include a wide variety of information about library developments in all the member countries. Peter may be contacted via email at <fairview@iu05trc.trinet.k12.pa.us>. He'd be pleased to hear from you about the happenings in your area, your forthcoming conferences, and your professional development activity reports.

4. *SCHOOL LIBRARIES WORLDWIDE* is the journal for IASL. It is published twice per year under the excellent editorship of Dianne Oberg, University of Alberta. She may be reached via email at <dianne.oberg@ualberta.ca>.

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Forthcoming issues will address:

July 1996	Sharing the Vision: IASL'S 25 TH ANNIVERSARY
Jan 1997	Action Research in School Librarianship
July 1997	Technology: Potentials and Pitfalls
Jan 1998	Power and Politics

The journal comes with membership, or by separate subscription.

5. Distribution to members of 'COLLABORATION THROUGH PARTNERS IN ACTION: SUPERINTENDENT'S GUIDE has been very popular, especially for the section on questions that might be asked by a Superintendent of a Principal; of a teacher-Librarian; of a teacher. Several districts have also reversed these questions and have used them when interviewing for new principals or Directors of Education in their districts.

6. Maureen Nimon is the chair of our RESEARCH COMMITTEE, and we are in the process of developing a research network with all members associations to pool the information about what is happening. The discussion at the conference is enlightening, with regard to the various types of action research that are currently going on. We feel that by sharing this information and getting comparative or complimentary studies initiated, IASL is working for the grassroots. Maureen can be reached via at email at <maureen.nimon@unisa.edu.au>.

7. In collaboration with UNESCO, IASL annually makes a contribution of books to at least one school in a developing country. These materials are very much appreciated, and contributions to this fund are always appreciated.

In reviewing the need for development, it has become very apparent to me as Vice President, that we must make a concerted effort to address these issues:

- Changing Role of School Library Personnel as Information Specialists
- Integration of Technology into School Library Programmes and Services
- Integration of School Library Services into Curricular Development Functions
- Developing the Love and Appreciation for Literature and the Arts in all formats
- Personal and Humane Communications Skills in all aspects of our work.
- Linking Relationships with Peers in Library Information Services
- Collaboration with Colleagues in all areas of Education and Community Service.

As an Executive Member, I appreciate the magnitude of this mandate. At the same time, I am committed to education and feel that as a global association we can move slowly and systematically as a turtle to reach our visionary destination. We must have a strong sense of purpose, and be able to draw others to want to work toward the same ultimate goal, not mere knowledge, but the true purpose of education: personal enrichment, spiritual growth and mental development of each individual with whom we come in contact.

IASL is pleased this year to announce a number of award winners. In this way we acknowledge the leadership of the members and the various associations in which they are workers.

The **IASL-SIRS Commendation Award** will be given to the ASSOCIATION FOR TEACHER LIBRARIANSHIP IN CANADA for their publication *WINNERS: Resource Based Units Cooperatively Planned by Teacher-Librarians and Teachers*. This is a powerful sample book of lessons that have been tried and proven successful for process and methodology. They offer ideas for people interested in integrating the school library programme into the regular curricular content. Linda Knight, editor for the project, will attend the conference, and will meet with delegates who might like to discuss the processes used in developing this document. For more information, contact Victoria Pennell via email at <vpennell@calvin.stemnet.nf.ca>.

A **Certificate of HONOURABLE MENTION Commendation Award** will be presented to the School Library Association of Queensland (SLAQ) in Australia for the SLAQ Promotion Project:

Sub-Committee Expansion, Development and Support. The model of chapter development is one that can be shared in many other countries.

Ms Daisy Lake, Antigua (West Indies) Ministry of Education School Library Consultant has been awarded the JEAN E. LOWRIE LEADERSHIP DEVELOPMENT AWARD for her demonstrated leadership on the island and in the Caribbean generally. Daisy will attend the conference to meet colleagues and share ideas.

Other awards will also be featured in Research, Automation, and Collection Development at the conference.

We hope that we will be able to use the various leaders in our association who have received these awards, and that we will be able to draw on award winners from other associations to help in reaching our professional goals as noted above.

I am pleased to share these perspectives on school library development from the International perspective. My travels around the world, working in seminars or conferences, and talking with professional colleagues shows me that we have a powerful network, and that we can make a significant impact on education if we work together.

I would personally invite you to join IASL. I would encourage you to devote time and energy to your local association. Give your leaders your strong support. Work together as a team.

TEAMWORK
Coming together is a beginning.
Keeping together is progress.
Working together is success.

Everyday is a wonderful opportunity
to love
to learn
to laugh
to care
and to celebrate the joy...
of
life !

Gerald R. Brown is a Consultant in Library Media Services and is the Vice President of the International Association of School Librarianship (IASL). Gerald can be contacted by 'snail mail' c/o 3403 - 55 Nassau Street, North Winnipeg, Manitoba R3L 2G8, Canada; by phone and fax on 204 - 284 - 5620; or via email at <browner@cyberspc.mb.ca>.

TOPIC H

HOME-SCHOOL LINKS:

NETWORKING THE LEARNING COMMUNITY

INTERNET ACCESS VIA SCHOOL: EXPECTATIONS OF STUDENTS AND PARENTS

Roy Crotty
Teacher Librarian, Bradbury Primary School, N.S.W. &
Vice-President, Australian School Library Association (NSW), Australia

In the preparation of this paper I contacted a number of colleagues who are teacher librarians in high schools, primary schools, public and private schools. I also posted a request on LM_NET, requesting the thoughts and ideas of people working in the field of Internet use as my searching of available journals had proven somewhat inadequate. There were many articles of how teachers and teacher librarians can use the Internet in their teaching practices and how training is essential for them if the most effective use is to be gained, but little could I find about what expectations the students bring with them and what the parents of the students expected about their children's use of the Internet. I would have expected that there be some recognition that at least our students may come with some prior knowledge, and so starting points for teaching practice and students' learning would have been established. It would be very dangerous to expect our students to have no knowledge of the Internet, especially because of the high media focus it often elicits.

In casting the net far and wide among my colleagues I hoped to gain as wide a perspective as possible and not to restrict the responses to the students and parents at my own school. My own expectation was that there would be a wide range of responses from both parent and student groups.

To my surprise the responses have been remarkably similar from all levels and areas. In summary, there was very little response from the parent groups, with the student responses being far more definite in what they expected. The student expectation really amounted to having access to almost everything they needed; from access to games, downloading software (primarily games), home shopping and, for the older ones, access to information sources. One Year 6 student likened the Internet to a phone book, where he could just dial-up to get access to anything he wanted.

This disparity in expectations surprised me, especially from the parent group. As I read the daily newspapers I come across what could be regarded as disturbing news items about the Internet at least a couple of times a month. A recent article in the Sydney *Daily Telegraph* concerning a Web site known as 'The Crime Archives' began "The Internet has become a data base for murder", with other phrases including "a Who's Who of the serial killer scene... look for your favourite killer and check his or her standing on the serial killer hit list." Disturbing enough, but the article concludes with this most chilling request "They tried it, they liked it, they did it again! Send kill-mail to .... " Later in the same paper the use of the Internet for home shopping was espoused. A little confusion at least could be expected in the minds of the unknowing and I still thought a much stronger response would have been forthcoming, particularly about the so-called dangers lurking on the Net; pornographic material and plans to make home-made bombs being two which seem to crop up regularly. However, Kevin Richardson, Director of Information Technology in Schools for the NSW Department of School Education, probably summed it up best when, at a recent conference, he stated that parents are afraid to question the benefits of technology as questioning technology means questioning education. Is this then an acceptance by parents that teachers do know best and that they can feel safe in the belief that their children are in safe hands? Or maybe it is lack of knowledge? A colleague with considerable experience in Internet usage at a tertiary library related how a principal at her child's school was demonstrating the Internet to a parents' meeting. His knowledge appeared limited, and the parents obviously less so, but they just nodded approvingly. If the principal knows what he is doing, then why should we worry? Or is it, as Kevin Richardson also points out, that parents are happy that the children are happy when using computers.

But what of the students' expectations? A colleague commented that if this is the Information Age then our students are in the Nintendo Age. If the figures are correct showing that only 7% of primary school age students are uncomfortable with computers, then it could be reasonable to assume computers are seen as just another aspect of their life. They do not question their presence nor do they feel frightened by them. Many young students may not remember a time when a computer was not an essential part of their home or school life. This familiarity, while having aspects that are most welcome, may lead some to over-anticipate the capabilities of the Internet.

Is there a danger here? May their expectations be a little unreal? Several respondents gave examples of students spending inordinate amounts of time searching the Net for answers to school assignments only to find the answers were available in books in their library. This has also been reported in major city newspapers where parents have attempted to assist their children by browsing the Net, only to discover a good reference librarian in the local library with the answer within minutes. The unstructured nature of material on the Net adds to these problems, so for effective research, one of the skills needed to be taught is that there is a time to use the Internet, a time to use a book, a time to use a CD-ROM encyclopedia, etc. Broadly speaking, the students were seeing the Internet as an activity and information space, and may wander somewhat aimlessly around in the hope of finding what information was necessary to meet their information needs. Students, and parents, without adequate training may lack the critical thinking skills to analyse the data they collect in order to produce useful information.

This is where the teacher librarian can have a major role in making the parent and student expectations more realistic. If the parents appear a little 'techno-ignorant' or even 'techno-phobic', information sessions at Parent and Citizen meetings, Open Days, etc. (open an Internet Cafe at your school!) when parents can be shown the true benefits of using the Internet by accessing what could be regarded as worthy Web Sites. Providing information in school newsletters as to useful and/or interesting sites to be bookmarked may also be of benefit to computer use at home, especially now that some schools are expecting students to use computers at both home and school and with some schools providing students with Internet access after school hours. It would also demonstrate the responsible approach being taken by the school.

But it is when working with students and teachers that the true benefit of the teacher librarian's role can be appreciated. The skills of the teacher librarian as an 'information specialist' to facilitate students' access to the information sources within the library and to connect globally to sources beyond the school precinct, will have a significant effect on students' learning. The teacher librarian's role to 'interconnect' information sources, curriculum and teaching practice can make utilising the Internet a more realistic learning environment, where students and teachers working together to achieve quality educational outcomes will become the important feature and the technology will be only a tool, not the focus, to achieve the desired outcomes. Activities such as the I*EARN program developed in Victorian schools are a perfect example of using information technology to construct a learning environment with quality outcomes.

The teacher librarian's role can also extend beyond the traditional role of management of library resources to include managing electronic information sources, developing guidelines for information searching by both students and staff, developing guides to 'quality' materials, keeping information sources current (as some Web sites do disappear), being involved in providing professional development for colleagues, looking for shortcuts, etc, but above all, providing new educational opportunities for students.

The Internet is a new technological phenomenon for most people and so the expectation is that people will vary from the techno-phobic to the techno-euphoric. 'What was wrong with good-old book-learning' some might say while others will have the attitude that if it is new then it must be good. Like most new things, the middle ground is often the most realistic path, and with proper and appropriate guidance from professional teachers, the maximum benefit will be gained.

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THE SCHOOL LIBRARY AS COMMUNITY INFORMATION GATEWAY

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John Paul College is an independent, co-educational Pre-School to Year 12 day school, situated on the southern outskirts of Brisbane at Daisy Hill. The College was established in 1982 by the clergy and lay people of the district, and the present enrolment is in excess of 2,300 students. In addition, the College offers Community Education Courses and has just opened a Child Care Centre which accepts students from 6 weeks of age. Today John Paul College is the largest independent school in Queensland.

The Information Infrastructure has been under construction for five years and today includes access to 25 permanently mounted CD ROMs; numerous hard disk based titles; access to the World Wide Web through a 64K ISDN line; school based and Internet email facilities. At present there are 250 desktop machines and 1,300 notebook computers in the College.

The network is accessible in all classroom and offices of the College via the fibre optic backbone. Students may, with the purchase of a modem access the CD ROM network from home. Internet access has not been made available from home yet, although it is envisaged that we will conduct trials on home access to defined sites by the end of the year.

This web of resources gains its purpose and power because it is accessible not only in the Library, but in each classroom and office in the College and via modem from home. The network is used by students in Years 3 to 12. In the elementary school students from Pre-School to Year 2 use CD ROMs and hard disc based titles on stand alone computers. This thematic software is utilised to meet the specific needs of younger students. In addition a number of short term thematic CD ROMs, which suit the needs of students in Years 3 - 5, are moved on and off the network as themes dictate.

Access to the network from home allows students the flexibility of researching at home, and using the resources at a convenient time and place. The concept of independence of both time and space is fulfilled as students can access the system 24 hours per day.

Access to the network from home is a natural addition to the services offered by the Library Resource Centre. The Centre is open from 8 am until 7 pm, 3 days per school week, and from 8 am until 5 pm on the other 2 days. Students have access not only to the 70,000 item collection, but access to stand alone CD ROMs machines, and 20 high end multimedia machines as well as 10 OPACs, the Internet and the CD ROM network.

In 1990, the decision to place a notebook computer into the hands of each student above Year 4 was made, and today there are in excess of 1,300 notebook computers on campus each day. The notebooks can be attached to the network through adaptors, which are located in the classrooms, laboratories and the Library.

The CD ROM software used on the remote access system is CD NET, resident on a CITRIX server. Students are issued with individual log in and password data, relating to a unique phone number. The system operates on a dial back method so that only current students of the College access the system. Students are logged out after 20 minutes although they may dial back in to the system.

Issues that we have faced include; access made difficult by inadequate infrastructure of telecommunication providers in outlying suburbs; modems that are incompatible with the system; maintenance and upgrade of communications software; suitability and ability of products to work on the remote server; inability of sound functionalities to work on the remote system; and congestion during assignment times. In addition individual licence agreements on each product had to be sought.

FUTURE DIRECTIONS

In 1998 the College will open a remote campus at Lake Awonga near Gladstone in Queensland. This site will be technologically advanced incorporating the latest communications systems. The research and development for this site is well in hand and will impact on the present shape of the network and the dial in system.

It may be the case that with the convergence of data, systems, infrastructure, etc., our remote system will at best be an interim service. As a sizeable number of our students have desktop PCs at home, and access to multimedia titles bundled with their hardware, the need for the service may reach a plateau. In the interim students have access to a library that does not close, and resources that have been selected to suit their general academic needs.

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RURAL ACCESS TO THE INTERNET

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ABSTRACT

As the continual growth of Internet use increases and its subsequent invasion of our culture proceeds in tandem, some issues in rural parts of Australia are not keeping pace. This discussion seeks to collate some of these issues as experienced by the participants and to define several positions about the practical, technical and social issues around the topic of access and equity of Internet access for rural schools in particular.

1. INTERNET ECOLOGY

The information chain (Eustace 1994) defines World-Wide Web service as a new form of ecology where food is replaced by information (Figure 1.). As rural communities strive to enter the information age, telecommunications services are under greater pressure to provide equitable quality and access, in contrast to the urban environment.

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CONSUMER OF         Internet Service Provider
INFORMATION ------------------------------------------> PRODUCER OF
                           as conduit                   INFORMATION
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Figure 1. Consumers and Producers on the Internet spectrum

As rural users move towards the producer end of the spectrum (beyond maintaining a Home page), more time and resources are invested. Some key questions present some challenges and these are presented in the next two sections.

2. TECHNICAL ISSUES

Urban ISPs in Australia are now offering 64kbs ISDN links. In the USA, the 64kbs ISDN link is $US295 p.a. - the same rate as the 28.8kbs modem link. The 128kbs service is twice the 64kbs rate at $US590, with other ISDN services up to 512kbs. In stark contrast, rural Australia has many remote rural exchanges that cannot handle 2.4kbs modem rate!

1. Where does the Internet fit in with other systems such as videoconferencing, electronic classrooms, satellite communications and pay-TV services, currently available in schools?

2. What are the future intentions of Telstra, Optus and the new telecommunications players for developing rural/urban telecommunications?

3. Are Internet service providers (ISPs) to become the local Internet outlet, similar to video hire or do they face extinction from 'store front' Telstra and other companies?

4. What role do the education service providers (ESPs such as Department of School Education, Catholic Education Office etc) play and what is the status of current information technology initiatives across Australia?

5. Are such initiatives Internet-driven to the detriment of other areas of information technology?

6. Where is the nearest ISP and does it have special STD rates or a 13 number?

7. Where is the low road and the high road to the Information superhighway?

8. How can remote schools obtain and afford:
    - a 64kbs ISDN link or better?
    - an Internet server (WWW, email etc)?

9. What is an Intranet?

10. Why not build an Intranet server/Internet connection environment?

11. How can a firewall (proxy server) improve performance and security?

3. PRACTICAL ISSUES

Educators are embracing new teaching pedagogy trends all the time, however, here is a list of some trends that may be related to the development of a learning environment and a library enmeshed in Internet technology:

- interactive processes,
- participation,
- student control of learning,
- distance independent learning,
- communication in real time,
- criterion-referenced assessment,
- electronic publishing,
- fascination by users with text-based systems.

1. Who is going to manage the Internet server (a task as vast as current computer management in schools)?

2. The meshing of pedagogy with technology:
    - Are the educational outcomes worth investing in the process at all, which is constantly changing?
    - What ethical practice or standards of Internet use need to be in place?
    - How can students and teachers cope with the 'quick sand-sinking feeling' or the shifting sands of the Internet ?
    - How can students and teachers cope with working with others in different time windows (time zones)?
    - Education as a social activity: How much technology can teachers and students endure?
    - What is the educational value of text-based virtual reality, virtual communities and virtual environments (VEs)?
    - What collaborative projects or activities can be used in VEs?
        - Virtual Meeting spaces for teachers (desktop conferencing)
        - Tutorial support for classroom teaching
        - Tutorial support for distance teaching
        - Environments for 'Just-in-time' Open Learning
        - Learning by doing educational environments eg constructivism
        - Spacial organisation of information retrieval
        - Dynamics of interactions in a virtual space

- Social and Political issues in virtual worlds
- From Laboratory work at school to Collaboratory work across the Internet.

3. What rural Internet re-training opportunities exist when last year's Internet training has reached its 'use-by' date?

4. How will the local school population and the community support improved access to the Internet?

5. Are the costs prohibitive or do other priorities compete (eg textbooks) at the moment?

6. Is there any educational penalty for 'holding back' a while?

Communications technology can do similar enhancements for the teaching and research activities where a simple Collaboratory Model using WWW, email and MOO is used to augment communication amongst educators, spread across several time zones.

4. K-12 RURAL ACCESS CASE STUDY

Since late 1994, the Internet Special Projects Group has been working with the Charles Sturt University, Division of Information Technology (DIT) in providing Internet access and information pages for rural schools in NSW and north-east Victoria.

Ken Eustace and Paul Wood-Bradley developed the Local Schools Page Prototype WEB System of pages as a computing research project (Eustace 1995) sponsored by the Information Systems division at Toshiba in 1994-95, with Charles Sturt University (CSU) providing the Internet access via dial-up 14.4kbs modems. The Education and K-12 Schools Page and email directory is now maintained by DIT at CSU.

As a result of these efforts and the work of Ken Davis at Gumly Gumly Public School and other teachers at the following schools , you can now visit each school on the Internet.

George McLean at Batlow Technology School is working with a new ISP in Tumut to bring affordable Internet access to the school from July 1996.

K-12 SCHOOLS WITH HOME PAGES VIA CSU

(NOTE: the following schools are all in the same directory)

Bandiana Primary School	**<http://www.csu.edu.au/schools/bandi-ps/bandiana.htm>**
Cowra Public School	**<http://www.csu.edu.au/schools/cowra-ps/>**
Gumly Gumly Public School	**<http://www.csu.edu.au/schools/gumly-ps>**
Junee North Public	**<http://www.csu.edu.au/schools/junno-ps/>**
North Wagga Public	**<http://www.csu.edu.au/schools/nowag-ps/>**
Oberon High School	**<http://www.csu.edu.au/schools/obero-hs/hmepge.htm>**
Sturt Public School, Wagga	**<http://www.csu.edu.au/schools/sturt-ps>**
The Scots School, Bathurst	**<http://www.csu.edu.au/schools/scots/tsshmp.htm>**
Turvey Park Public School, Wagga	**<http://www.csu.edu.au/schools/turve-ps>**
Xavier High School, Albury	**<http://www.csu.edu.au/schools/xavie-hs/zavmad.htm>**

REFERENCES

Eustace, K. (1995). 'Redefining the Walls of the Classroom.' Expanding the Horizons Conference Proceedings, Bond University, Gold Coast, Australia, August 23-25, 1995.

Eustace, K. (1994). Interactive Education: Distributed hypermedia and the networking of students on the World-Wide-Web. *COM3: Journal of the Computing in Education Group of Victoria*, 21 (1/2), June: 4-8.

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NETDAY '96: EXTENDING THE INTERNET WITH VOLUNTEERS AND DONATIONS

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It takes a village to wire a school -- or so it would seem after NetDay '96, an event billed as a high tech barn raising to wire all the schools in California with a high capacity LAN as an important step in connecting them to the Internet. This project began in 1995 with John Gage of Sun Microsystems and Michael Kaufman of KQED television in San Francisco deciding that something had to be done to cut through all the bureaucracy and endless discussions about the barriers to wiring up schools in the US. Enlisting the support of Tom Kalil at the White House (whose email signature file reads 'Just Do It') they found willing allies in the Clinton Administration which has had a long-standing commitment to extending the Net even to that famous virtual little girl in Carthage, Tennessee, who is forever looking for dinosaur information from Library of Congress.

The original plan that was hatched in the summer of '95 outlined in rough detail how ten technical volunteers, working all day on Saturday, March 8, would be able to string category 5 wiring in five classrooms and a school library and lay the foundation for a good LAN and Internet connection. The job would be to encourage industry, communities, and any other groups that could help to replicate this all over the state. The organizers were averse to having a lot of meetings or planning sessions when this was first endorsed by Clinton during a visit to schools and a museum in the San Francisco area in September 1995. Gage said he wanted to use the Net to organize the event: no office, no paid staff, everything decentralized with most of the coordination taking place with email and Web pages. As the *San Jose Mercury News* for September 21, 1995, noted, 'No public funds will be used, and no committee meetings will be held, planners say. The Internet will permit volunteers to just show up and do it.'

However, the sheer number of challenges, the need to educate (and convince) school administrators, teachers, and the public about the event, led to a massive PR campaign on the part of the NetDay organizers, as well as subsequent visits by Gore, Clinton and finally on March 8, 1996, the core of the Administration interested in networking issues. There were many meetings involving teachers, industry, volunteers, and school administrators.

To help people find out more about the event a web site was set up by The WELL **<http://www.netday96.com>** where anyone could search a map of the state linked to a database, find a school, see who had volunteered, who was organizing the event, and who the principal was. A prospective volunteer could list her contact information and describe her skills in the database. As the volunteer base increased, the icons for each school would change: a red dot on the map of California indicated no volunteers; yellow meant that four or less had signed up; and green meant they probably had a good complement built up. Using the zoom feature (or search by name or street) you can inspect each school in the district. My son attends a middle school in the Moreland School District in San Jose, and I was able to zoom to the street level and find his school. However, the map and database don't reflect much more than who had volunteered. It does not show that a school is already wired, that it's undergoing renovation for asbestos or inadequate electrical wiring, or that they have no plans to wire it. This led people to make judgments from the map where many dots were red and only schools in the high tech areas like Silicon Valley were almost solid green. I encourage you to look at the site because it is a great attempt to make use of the Net for collaboration, for information dissemination on a specific project, and because of the simple but effective GIS system employed. However, it does not reflect the whole picture.

Some people signed up for a school because the volunteers were Internet users, had heard about the event on the Net, and genuinely wanted to help. But the school was not online, and the principal may not have even known about the event or that people had signed up to help. Indeed, a few people showed up at some schools where the gates were locked and nothing happened.

In our area, Smart Valley <http://www.svi.org>, a non-profit organisation that is undertaking a number of ambitious networking projects in Silicon Valley, including Challenge 2000 (systemic education reform) and Smart Valley Public Access Network (Web browsers in public places such as health clinics, halfway houses, and libraries) decided to cooperate with the NetDay organizers. With John Gage and Bill Clinton twisting arms, a number of businesses and organizations joined in that probably would not have, had it just been Sun Microsystems beating the drum for this project. Once committed, Smart Valley organized an array of events, training sessions and worked with local companies like Pacific Bell, 3Com, Apple, Cisco that provided equipment, funds, support, and perhaps most important hundreds of volunteers for the event. They also tried to ensure that the schools with less savvy about the Net were not left out.

The media that covered this whole process, especially the *San Jose Mercury News*, played up the angle that 'The Rich Get Richer' and while that seemed to be a pattern in some parts of the state, Smart Valley tried to equalize benefits for the schools in their area. One of the problems for a volunteer-based project is that the organizers don't have much leverage when the unpaid workers are deployed. Most want to work in the school attended by their kid, or at least in a school not far from home. The schools in Palo Alto, Mountain View, and Cupertino, which have many parents from high tech firms drew many volunteers. Some had far too many to be used effectively, while some inner city schools and many rural ones had few or nobody to help out. Some detractors felt the project was like a South Pacific cargo cult or a UFO landing pad in someone's back yard: if you install the infrastructure, benefits will rain from the sky; kids will get a 21st century education, as access to the Net magically raises all boats and all the test scores! Another complaint for technology projects in general is that the community is not involved in any discussion prior to the introduction of the technology. Parents may want to debate where it is a good idea to spend money on networking when the school library is in bad shape or when the teacher to student ratio is more than 30 to 1. NetDay was conceived at high levels, not at the school level where the parents feel they have more input.

My son's school is in an area where many parents work for electronics or telecommunications firms, and the parent technical committee reflects that. Most California schools are suffering in various ways, and that includes my son's, but they do have strong commitment from the parents. In 1995, the school and parents spent over 600 hours and $15,000 in purchased and donated networking equipment to wire up the middle school. The computer teacher sent The White House his spreadsheet to show just how much work it would be to wire a school, and noted how it went far beyond what was initially promised by the NetDay promoters.

As the March 8 date approached, the NetDay organizers began holding many more meetings, toning down the promises that all schools would be wired, and finally began getting buy in from administrators and teachers at the local level. It was my impression that initially they saw the profession as a block to their effort to bring connectivity to the schools even though they had the support of Superintendent of Education Delaine Eastin and a number of district superintendents. The California State Library was not involved.

Many schools had teams of volunteers come in before the March 8 date to do wiring, some like Ygnacio Valley High School in Concord, California, where I used to do book talks as a YA librarian, had a lot of help because Clinton and Gore were headed there to help pull cable (red, white, and blue of course), make a talk, and help boost the projects and the 150 volunteers at that one school. I went to a middle school in Alum Rock School District across town in East San Jose. Although the database indicated there were only four volunteers, I arrived to find at least thirty, divided into teams, with 8th graders signing people up, handing out t-shirts and running errands for some of the work groups. Our team installed Ethernet cards in the Macs in the classrooms, the library, and the school office. As you know, there are fewer school librarians and media specialists employed here than ever before. The library is almost a symbolic place of learning and with the arrival of the Net, some think it's outmoded. Scott McNealy, the CEO of Sun Microsystems commented, 'Books - that's antique. That's not the way to find anything' as he gestured to the library shelves during a speech at Overfelt High School in San Jose.

After the day ended, there were numerous stories on television and newspapers, some questioning the value and others praising the great outpouring of assistance by the public and business community for school networks. I felt the grassroots aspect of the project was very beneficial, and most principals did as well. Some were unable to use volunteers because of liability risks, and others just did not have the time or expertise to put together a plan to take advantage of the volunteers who wanted to help.

There are numerous plans to take this further in California and elsewhere. Many schools are planning netdays later this year, and some even use the motto 'Every Day is NetDay'. The Smart Schools project in Smart Valley plans to continue to wire up all the schools in this area because they know how important the equity issue is. There are also plans to do this in North Carolina <**http://www.explornet.org**> and in the Fall in Connecticut. Richard Akeroyd, Connecticut State Librarian, alerted me that he is involved in his state's effort where public libraries are included in the project.

Before the Public Library Association conference in Portland I discussed NetDay with various state librarians as well as the attendees at a preconference on community networking and asked them to consider a similar project aimed at public libraries. I believe that such efforts might better start at the grass roots level rather than in the board room of a company or in the offices at ALA. I believe the reference staff and the library directors should be involved from the beginning and not swept along after a media blitz by sponsoring companies and national groups. Quite honestly, some librarians object strongly to this sort of project. They believe strong support from the state or local government is crucial to the sustained health of libraries and no high tech photo op and an army of volunteers will do very much for our institution.

I would argue that they are right; a one time media spectacle won't begin to solve some of the library world's problems, but it can raise awareness of the issues and can involve many members of the public who would never join a friends of the library group or perhaps even check out a book. Over 17,000 volunteers helped out in California, and every principal and teacher I spoke with were surprised and pleased that people from all over the community came to help out. George Datz, Research Director for the California School Employees Association, said his organization did not want to be used as an excuse to prevent volunteers for this project ('The Union is against it, but we'd love to otherwise.') Instead he and many members took part and helped make it a success from his standpoint. Datz as well as many other professionals know that there is much to do in terms of training, acquiring adequate machines or upgrading older computers, and integrating the Net into curriculum. Van Wilkinson, Director for Technology and Development in the Shasta County Office of Education in Redding, California, said the event was a 'fuse' to light the way toward ongoing efforts. I know the library world can benefit from the sort of exposure that schools received. I hope a few librarians will explore the idea of starting something in their states, and I'd like to hear from those who are interested in kickstarting NetDay projects for public libraries at the state level.

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TOPIC I

EVALUATING INTERNET INFORMATION SERVICES

SOME EVALUATION CRITERIA TO ASSESS INTERNET INFORMATION SERVICES

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INTRODUCTION

The consideration of evaluation criteria useful for assessing Internet information services requires a statement of context. The information needs of primary school students (K-6) are vastly different to those of an academic or a casual net-surfer. Diverse audiences will need to use diverse criteria according to their information needs. Whilst some criteria may be generic, it is from the perspective of a primary school teacher-librarian that this set of criteria has been developed. Within this context and using these criteria, sites are evaluated for the information needs of primary school students and staff.

Criteria have been grouped under the following headings:

- Content;
- Design and structure; and
- Educational value.

CONTENT

Recency

One particular strength of the Internet as an information source is the recency of information available. It should be expected then, that content is up to date. The CIA fact book <**http://www.odci.gov/cia/publications/95fact/index.html**> provides information about countries that is updated every six months. A traditional print source of such information could not provide such immediacy. The most recent revision date indicates the currency of the information in the site.

Relevance

The instructional needs of students should be taken into consideration. Does the site provide appropriate material for desired learning outcomes or is it merely an on-line version of available print material? It may be that other resources are more appropriate for students' information needs. The mode of presentation of information; textual, visual, interactive can be a powerful motivating tool for the learner.

Authority

The author of the site should make explicit the range and sources of information contained therein. Selection criteria for linked sites and the provision of e-mail contact help establish authority and veracity. The links within a site and the links to other sites need to be accurate, relevant and operational. Sponsorship of the site by a recognised national, regional or educational institution assists in establishing authority.

Freedom from bias

Factual sites suitable for primary school use should provide a balanced point of view. Material needs to be free of gender, racial and cultural bias.

Audience

Whilst it is often difficult to determine a particular audience for many sites, where sites are particularly aimed at the K-6 sector the material should be evaluated for appropriate language level and interest level.

DESIGN AND STRUCTURE

Quality

There is no doubt that good graphic design principles enhance the presentation of material. Establishment of identity, consistency of approach across a site and continuity within the site enable material to be easily accessible. Much has been written on the topic of good design. Two sites to refer to are the *Yale Style Manual* at <**http://info.med.yale.edu/caim/StyleManual_top.html**> and *Design and Style Guidelines* at <**http://WWW.Charm.Net/~web/Style**>.

Text

The format and colour of the text should be aesthetically acceptable and easy to read. The use of larger fonts can enhance educational sites. The provision of text only versions of pages allows access to those without graphical browsers. The amount of text per page should be assessed for usefulness. If a primary age child has to scroll through dense text to obtain information, interest will wane.

Graphics

Graphics should enhance a site rather than being purely decorative. The Cub Den <**http://www2.portage.net/~dmiddlet/bears/cubden.html**> demonstrates good use of text, font size and graphics suitable for young students. Overuse of graphics and background images may cause sites to load very slowly. In K-6 schools where equipment used is often far removed from 'state-of-the-art' technology, this can be a significant issue.

Navigation

The home page of any site should have a linked contents list for that site. Each section of the site should be easily navigable with a link at the end of each section to return the user to the home page. Links to the sponsoring institution should be present. Links looking outwards need to be ordered and relevant. The *ACTEIN* site (Australian Capital Territory Education Information Network) <**http://freenet.actein.edu.au**> demonstrates these features.

EDUCATIONAL VALUE

Enhancement of learning/thinking processes

Does the site provide activities for learning/thinking? Mentoring services, the provision of expert advice in the field such as ask a geologist: email to <Ask-A-Geologist@usgs.gov> are useful services. Interactive sites such as *Wacky Web Tales* <**http://www.hmco.com:80/hmco/school/tales**> require the student to contribute to the site in order to get a result.

Useful pointers to other locations

Compilations of useful websites for K-12 education are in copious supply on the Internet. The criteria that the compiler used to select these sites would be of assistance when evaluating their usefulness. A brief description of items on a Hotlist is useful to help assess worth before spending valuable time exploring all the links. A particularly good compilation of theme related sites is located at *Teachers Helping Teachers* at <**http://www.pacificnet.net/~mandel/EducationalResources.html**>

Useful resources for downloading

Where resources are available for downloading, clear instructions and any necessary accompanying software should be linked to the site. Sound and video files need accompanying notes to specify minimum hardware and software requirements because it is highly unlikely that primary schools will have the latest technology available.

Participation in projects

Invitations for project participation need to be accompanied by time, scope and sequence details. Preferred clients should be listed and archives of previous such projects made available. The provision of ongoing support in the form of a listserv for collaboration and discussion is desirable. Such project support can be viewed at the *Book-Rap* site at <**http://owl.qut.edu.au/oz-teachernet/projects/book_rap/br.html**>.

Whilst the above criteria are neither exhaustive nor complete, they may provide a starting point for discussion about suitable criteria to use in a primary school when accessing Internet information services.

REFERENCES

Grassian, E. (1995) *Thinking critically about World Wide Web resources*
http://www.ucla.edu/campus/computing/bruinonline/trainers/critical.html

Inventory of Electronic Resources: Resource Selection Criteria (1996)
http://www.oltc.edu.au/ier/oltc2.htm

OII feedback form for educational sites (1996)
http://copernicus.bbn.com/testbed2/forms/site_feedback_new.html

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THE TEACHER LIBRARIAN'S ROLE AS EVALUATOR OF INTERNET INFORMATION SERVICES

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'Evaluator of Internet Information Services'! Get out that teacher librarian duty statement and put on another hat. It seems there is no way to escape this new responsibility. According to *Learning for the Future* (1993:43), teacher librarians 'develop policies, procedures and criteria for selecting resources which meet curriculum, informational and student recreational needs'. If Internet information services can be used to help meet such needs, teacher librarians will be involved in evaluation of Internet services.

This paper presents a brief discussion of how the introduction of Internet information services might affect a school library's Collection Policy. The La Salle College Library Collection Policy is used as a framework for the discussion.

COLLECTION GOALS

Access to online information services changes the whole concept of 'collection'. Does 'the collection' mean everything users have access to, or only that which has been actively 'selected' for inclusion? The goal of 'a well-balanced collection' also requires rethinking. Most obvious is the opportunity to move from the 'just in case' philosophy of selection, to one of 'just in time', particularly in the area of current information.

A second 'balance' dilemma has arisen thanks to the low cost and immediacy of Internet information. In the past there have been limitations such as available funds and physical space to 'assist' in selection of resources. These limits were applied particularly in the area of meeting 'student recreational needs'. Is my unease about all those bookmarks on the Library's Browser pointing to X files, Star Wars, Triple JJJ and NBA a throwback to a bygone era? Should I rejoice that students, as well as library staff now consider the collection to be balanced?

The Internet can make a positive contribution to the second goal of the library collection, 'to provide College staff with a sound range of resources to support their teaching and professional development'. By locating and evaluating newsgroups and listservs which deal with teachers' professional interests, teacher librarians can broaden dramatically the professional development resources available. Of course, issues of access and training for teachers will need to be addressed.

COLLECTION SCOPE

At this stage of the Internet evolutionary process, it can prove difficult to maintain our stated 'emphasis on resources which reflect the Western Australian, Australian and Catholic heritage of this College'. There is reason to hope this will improve as the presence of our State, Nation and Church on the Net increases. Without being parochial, or devaluing the borderless context of the Internet, it would be preferable in many cases for students to receive locally oriented information as their first result, with the opportunity to broaden their search if desired. Teacher librarians might remind students that it is often appropriate to use Australia as a default term when refining an Internet search.

'Resources should contribute to the development of an appreciation of society's pluralism.' The Internet has the potential to greatly increase exposure to information by and about other cultures. In reality, most users find most of their information originates from North America, the UK and parts of Europe. Dale Spender (1995) deals with some of the issues of power and access to the Internet in *Nattering on the Net*. Despite the potential of the Internet, minority groups still tend to have a minority presence on the Net. This needs to be borne in mind throughout the evaluation process, and some affirmative action strategies applied.

'The Collection contains information in a wide range of formats.' As with all physical formats, the Internet has strengths and weaknesses. Access is undeniably the biggest challenge, but elements such as immediacy, ease of use, seductive design, and relatively low cost make the Internet most attractive to many users. Evaluation involves consideration of which format is the most appropriate source of information for a specific need. Libraries with limited Internet access tend to use it as a back-up service for use when information is not found readily in the physical collection.

RESPONSIBILITY FOR SELECTION

'The Head of Library may involve administrators, teachers, students, and members of the wider College community in selection, where appropriate.' New processes may be needed to facilitate community involvement in evaluation of Internet resources. I have found students are much quicker to bring in Internet addresses, and add bookmarks to Netscape than they are to suggest print titles for consideration. It may be possible for staff users to add links or bookmarks to a school, faculty or library home page as they evaluate them, although some schools will prefer to have a single webmaestro responsible for maintaining such pages.

Not addressed in this Collection policy is the fact that responsibility for certain selection decisions should preferably rest within the context of a schoolwide Information Technology Policy. The introduction of Internet information services involves evaluation of tools by which to access these services, and requires integrated decision making in the areas of:

- Hardware, especially modems, and/or networks
- Internet Service Provider
- Software for accessing the various Internet services, particularly Web Browsers
- Search engine(s) to be 'promoted' or 'taught' across the school
- Common structures and design of Internet publishing within the school.

CRITERIA FOR SELECTION OF LIBRARY MATERIALS

Once the establishment decisions have been made for Internet information services, the ongoing task of selection begins to resemble the familiar selection role of the teacher librarian. Internet information services can be evaluated using the criteria already stated in the Library's Collection Policy.

The appropriateness of resources are evaluated according to:

- ***Relevance to current or future curriculum.***

This, of course, continues as the fundamental consideration in selection for a school library. One of the benefits of Internet services is that there needs to be less anxiety about the potential 'future curriculum'. With traditional collection management, most teacher librarians exhibit a survival tendency which involves trying to 'second guess' curriculum changes or teacher whims, and selecting resources which might be useful.

- ***Appropriateness of level to intended users.***

While there are sites which cater for school students, there is no way of restricting most of the search engines to search only these sites. In a school library, students usually face materials designed for their level or on average up to 5 years either side. On the Internet the potential level disparity is enormous, especially currently with the longest users of the Internet being academic and research institutions. Different search engines for primary and secondary students could be useful. A prototype of this concept is *Yahoo's Yahooligans Web Guide for Kids* at **<http:// www.yahooligans.com/>**.

BEST COPY AVAILABLE

- ***Physical format and appearance of material.***

The Internet differs significantly from other sources of information in terms of format. Just as videos and books have discrete sets of format related evaluation criteria, teacher librarians will need to develop criteria for evaluating Internet services. These should include consideration of issues such as speed of access, interactivity, quality of links, design of web pages, browsers supported and security.

- ***Cost, value and suitability for library use.***

At present, Internet access is paid for, but most of the content used by school libraries is free. This is certainly attractive, but also carries with it a lack of consistency of quality and service. It is possible that subscriptions to certain specialist information providers and services, eg. *AAP*, will become a more attractive option to school libraries in the future. The development of an Internet agent which maintains a profile of its clients' interests might also provide a service to school libraries.

Resources shall meet high standards of quality in both content and presentation. The quality of resources will be evaluated in terms of:

- ***Accuracy and currency of content.***

There is a common delusion that because the Internet is new, its information is by nature up-to-date. The older the Internet becomes, the more important it becomes to eliminate this thinking. With some younger users, there is a corresponding view that because it is technologically advanced, the Internet delivers a superior information product. Accuracy needs careful evaluation, not only in terms of content, but of links, photographs, sound, labels, and text conventions.

- ***Authority and reputation of authors, producers or publisher.***

Gurn (1995) points out the major challenge here. 'Authority in print materials is frozen in time with the data. This is not so for on-line information. Data that is expected to change, or is time sensitive requires the most care in noting authority.' The Internet encourages many to publish who would not otherwise, and while this is intended as a positive statement, attention should be paid to the author's email address, the domain of the site, and any indication of author's established reputation in the area.

- ***Scope of the work, adequacy of coverage and level of detail.***

Locating Internet resources which contain significant coverage within a document size which can be read comfortably in an online situation is a challenge. If users continually need to download or print the documents from the Internet, it may indicate inappropriate scope, (or insufficient Internet access points, or inappropriate research tasks).

- ***Treatment of subject matter, taking in to account language, bias and approach.***

The Internet seems to excel as a forum for debate, and as such is a good source of variety of opinion on most topics, found predominantly in Newsgroups. While this is a bonus when teaching 'point of view', it creates problems for users who do not recognise bias as an issue when undertaking research.

- ***Organisation & accessibility of information, layout and index.***

This, and the points above, are expanded in a number of excellent web sites dealing with criteria for evaluating Internet information services:

> ***Sofweb*** (Schools of the Future, Victorian Department of School Education) has a simple Australian guide for students entitled: Section on Evaluation Questions, available at <**http://www.dse.vic.gov.au/netiqet2.htm#3**>.
>
> ***Selection Criteria for World Wide Web Resources: a checklist of criteria for assessing WWW sites*** by Carolyn Caywood (1996) available at <**http://duckdock.acic.com/carolyn/criteria.htm**>.
>
> ***Thinking Critically about World Wide Web Resources*** by Esther Grassian UCLA College Library (1995) at <**http://www.ucla.edu/campus/computing/bruinonline/trainers/critical.html**>.
>
> ***Analyzing Web Sites*** by Kathy Schrock (1996). Kathy has designed Critical Evaluation Surveys for students at Elementary, Middle, and Secondary School levels, available at <**http://www.capecod.net/Wixon/wixon.htm**>.

REVIEWING SOURCES

'Reputable journals and selection aids will be consulted to identify potential purchases.' Many computer magazines, eg. *Internet Australasia* and *Australian Personal Computer* contain reviews of Internet sites, and professional school library and education journals are beginning to include online services in their review columns. Recommendations from colleagues are invaluable guides to selection and can be obtained by following professional newsgroups, and listservs. As well as searching in bookshops, SCIS, and publisher's catalogues to locate appropriate resources, the teacher librarian will be searching the Internet.

'The actual resource will be examined before purchase whenever possible. Evaluation data can be recorded in the Notes field of the online catalogue.' While significantly faster than faxing an order and waiting for resources to arrive, examining Internet resources for 'purchase' requires effort in going to the identified address, and either reading online, or downloading the information to evaluate it. Just as teacher librarians cannot undertake evaluation of traditional library resources without spending time reading books and viewing videos, they cannot evaluate Internet information services without spending considerable time online. Passing colleagues and administrators need to realise that 'surfing' is an essential part of a teacher librarian's role.

COLLECTION EVALUATION

'The Library collection will be evaluated regularly, and resources which are inadequate will be withdrawn.' Internet resources need to be 'selected', and like all library resources they must be deselected as they become no longer needed, out of date, superseded by a better resource, technically inferior, or culturally or politically incorrect. Once the decision to weed has been made, a quick press of the delete key is required, but with Library Web pages, dead links need checking and removing or redirecting, and any local cataloguing data will need to be removed.

CONTROVERSIAL RESOURCES

'Resources which are considered controversial will be carefully reviewed by the Head of Library and at least one other reviewer.' The controversial offerings of the Internet have been the subject of plenty of media attention. These concerns are real, and need to be addressed. No longer can a teacher librarian 'approve' every resource in their 'collection'. One response is to attempt to 'filter' or 'censor' access (depending on point of view), however if students are to experience the true power and design of the Internet, this does not seem a realistic option for most school libraries. Thus there is a strong interest in Internet Acceptable Use Policies and Agreements. There are many examples of these available online which schools can adapt to suit their situation, eg. *Acceptable Use Policies* available at <**http://www.dse.vic.gov.au/ftakcare.htm**>. When a potentially controversial Internet resource has been actively selected for use, there is the opportunity to annotate the link to that site outlining the reason for that decision, and the use for which the resource was intended.

PROCEDURES

Internet information might bring some savings in the area of order books, plastic and security slugs, but it does require 'processing' in some way usually by bookmark, or hypertext link. An Internet address may require some renaming to make it obvious which users the teacher librarian intends it for, and as with all online information will consume telecommunications funds, disk space, paper (if printed), and usually plenty of time. Some Internet sites may warrant entry on the library's catalogue to alert students to the Internet as an option. Schools with fully integrated networks containing both catalogue and Internet on an Intranet, or common workstation, will be able to take advantage of the next generation of library automation systems which enable hypertext Internet links to be inserted into catalogue records.

CONCLUSION

It is heartening to realise that existing school library Collection Policies maintain their relevance in the face of a new format as revolutionary as the Internet. A set of criteria specific to Internet services needs to be drawn up, and teacher librarians designing their own web pages need to heed these criteria as publishers as well as users.

The teacher librarian role statement also remains intact. Most school libraries find that despite the new technologies and information services with which they increasingly deal, there is no corresponding decrease in expectations of traditional library services. If existing services are to be retained and all the possibilities of the Internet are to be exploited, teacher librarians face a dramatic increase in workload. Discussion is urgently needed as teacher librarians and schools consider future priorities, alternatives, and staffing implications.

Finally, but most importantly, the teacher librarian's role is to assist teachers and students to develop these same evaluation skills and criteria through use of the Internet as one information source.

REFERENCES

Gurn, Robert M. (1995). 'Measuring information providers on the Internet.' Available WWW: **http://freenet.buffalo.edu/~ac110/mip.html**. Also published in *Computers In Libraries*. 15 (1), January: 42.

Learning for the future: developing information services in Australian schools. (1993). Carlton, Vic.: Curriculum Corporation.

Spender, D. (1995). *Nattering on the Net.* Spinifex: Garamond Press.

Van Orden, P. (1988). *The collection program in schools.* Englewood, COL.: Libraries Unlimited.

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HOW STUDENTS EVALUATE INTERNET INFORMATION SERVICES

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These are some random thoughts to raise some issues surrounding the question of how students evaluate Internet information services. The short answer, and based on limited research that I have been involved with, is 'they evaluate information services with great difficulty'. A useful contextual background for this discussion is found on the Open Learning Technology Corporation Ltd (OTLC) web site. The document is called 'Learning with software: pedagogies and practice'. I would recommend it as prerequisite reading! One important statement made in this document is that the emergence of new technologies, including the Internet, is already being accompanied by an expansive range of claims regarding their potential use in education, and the positive impact they are bound to bring to learning and teaching. Underpinning the Internet in a learning context is the assumption that it is fostering global learning communities between students, teachers, schools and professionals. Here is a typical example: 'A net connection in a school is like having multiple foreign exchange students in the classroom all the time. It promotes active, participatory learning.' As the OLTC paper warns, 'outside of the technological evangelists there are many who would see these claims as being like the Emperor's new clothes - without substance!' It is a curious thing to me, that in the numerous public presentations I've heard about the role, and integration, of the Internet into school education, all has been overwhelmingly positive. I believe that the Internet has enormous potential for contributing to learning, but all teachers and teacher librarians at this stage have to invest an enormous amount of time and energy to make it a reality. The Internet is not about to go away. It will play an important role in shaping classroom pedagogy for many years, and will contribute to a learning revolution shaped around the digital classroom. It will contribute to the evolution of new educational roles in schools, such as positions for Director of Information Services. How can we use the Internet to build a global learning community? First, we have to listen to, and observe the kids interneting as part of their learning experiences. They have a great deal to say, both positive and negative.

The following comments are based on research in progress being undertaken by Celeste McNicholas and myself on students' use of the Internet in their classroom experiences. The study has involved 1 classroom teacher and two senior classes, 1 geography and 1 religious education class involving a total 42 students, and is based on tracking students' use of the Internet as part of research assignments set by the classroom teacher. The students were randomly allocated to one of two groups: Group A used traditional information sources and Group B accessed the Internet, primarily the World Wide Web, from any of fifty possible sites using Netscape as a search engine and unconstrained by any electronic censorship. They had open access to the Net at all times throughout the course of the study.

In the context of the question: How do students evaluate information resources, and its answer: With difficulty, I would like to raise two issues to get the debate going:

1. THE REALITY OF THE INTERNET.

Its ambiguity, unpredictability, lack of structure, lack of selectivity, and its enormously variable information quality are its realities. To date, most resources on the Internet have not been developed with a specific goal of fostering K-12 learning communities. Most content is from overseas, and there is little Australian content. Do we shield learners from this reality? Take for example the question of pre-selectivity. Traditionally school libraries have been the bastions of carefully selected information resources, often driven by limited budgets, and extensive selection policies have been developed to ensure careful and appropriate selection of resources. Research studies have shown that school libraries are the primary source of information for students in their research tasks, followed by resources available from local public libraries, and other established information sources, such as government departments. Historically, learning resources have been preselected, and students have developed the information culture of 'if it is in the library it must be good.. or right.. or appropriate'.

This was evident in our study with students using the traditional library resources. But this is another reality, and there was some evidence in our study that students were bringing these embedded assumptions about the quality of preselected information resources, and this was a great source of frustration to them. They found it difficult to get a handle on the openness, vastness and uncritical lack of judgement on the Internet. How do educators deal with this? One solution of course is to download preselected sites and make only these available to the students. This saves time, online costs, and of course is very efficient in the learning process. It also guards against students having access to 'inappropriate' information. But given that this is likely to be the primary source of information in years to come (yes, above the school library and the public library), and increasingly available in homes, is this a realistic solution?

Given the rhetoric about the development of independent learners, lifelong learners, and discussions about situated learning, just-in-time learning, cooperative learning and the like, how then do we educate students for dealing with the reality of the Internet: its ambiguity, unpredictability, lack of structure, and lack of selectivity, and its enormously variable information quality. They will confront it out of school. How do we enable them to confront it in school, so that the experience beyond school is meaningful? How can we teach students to manage both the richness and paucity of information available on the Internet if we provide them only with a carefully chosen, tailored information environment?

2. THE QUALITY OF INFORMATION ON THE INTERNET.

Embedded in the above ideas is the question of how kids make judgements about the quality of the information they find. Traditional information -- print -- for instance, has inbuilt into its packaging the criteria that help students to make relevance judgements -- such as origin of information, date of publication, blurb on the credibility of the author, the author's expertise, context as found in the introduction. Much of the information on the Internet does not come with these mechanisms for making the judgements, and students we observed (one we would have considered reasonably information literate!) have real difficulty making choices about the quality and the accuracy of the information. They have the assumption that since it is available on the Internet, it must be good, akin to since it is available in the library, it must be good. I would suspect that our information literacy programs have not given adequate attention to the 'qualities' of information, how these qualities vary across intellectual domains (what makes quality historical information is quite different to what makes quality scientific information), and the skills of applying these qualities in order to make discriminating choices about information. Even more so, we need to be teaching kids how to be critical, discriminating evaluators of information. This is all about ensuring students are information literate. How do we do it in relation to the Internet?

Student's difficulty in evaluating information was shown in the problem of plagiarism: the cutting and pasting. As one student has said: 'You don't have to use your brain', and another: 'It's so easy to cut and paste. I get my assignments done real quick.' Here we are really talking serious stuff: effective integration of any new information into learning means that students must have the ability to analyse, synthesise and evaluate information -- to construct an answer that is unique, thoughtful, and truly demonstrates learning. The download to printer function makes cutting, pasting and plagiarism so easy. While it already is a major problem, it will be come a critical problem because of the ease at which the Internet enables it. We need to start more carefully thinking about the kinds of research tasks we set -- not just mere regurgitation of ideas downloaded from the Net, but activities that enable students to engage in the construction of their own knowing -- to be creators of ideas, rather than reflectors or copiers of other people's ideas. We also need to rethink how we assess those tasks - are we really rewarding plagiarism?

I would argue that with the advance of the Internet, the skills of information literacy are even more critical. Students need to have some rather sophisticated and different information handling skills to those associated with traditional information. I hope this virtual conference will enable these critical skills to be articulated and elaborated.

The Internet does offer enormous potential for enhancing student learning. I embrace it fully. Actually, I have little choice as an educator but to embrace it. But before we as educators jump on the bandwagon -- or the bandwidth, and go for an interesting journey on the information superhighway, we need to stop and do some serious thinking about how we will embrace it, and how we will use it effectively. If we don't, the information superhighway will become a rather rocky road, and it won't be just the students who get bruised.

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INTERNET RESOURCES WHICH SUPPORT THE ALBERTA SOCIAL STUDIES AND SCIENCE CURRICULA IN GRADES FOUR TO SIX

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DESCRIPTION OF THE PROJECT

One significant role of the teacher librarian is to select resources which are suitable for young people and relevant to the curriculum. A new and exciting source for such resources is the Internet. The project described below was to produce an annotated list of Social Studies and Science Internet resources which correspond to the Alberta curriculum for grades four to six. The project has evolved to include a World Wide Web document which can be accessed at <**http://www.ualberta.ca/~mpelensk/first.htm**>.

The resources on the list are materials which teacher librarians can make available to teachers, much as they do with other resources which support curriculum units. After viewing the site, the teacher will decide, just as is done now with other library materials, if the Internet site is appropriate to the needs of the class.

The intentions of this paper are to discuss a rationale for this project, to describe the method of locating resources for the list, to discuss challenges in Internet searching, and to describe the findings of the project.

RATIONALE

The Internet has amazing possibilities. It has been touted as being the educational tool of the future and the vehicle by which teaching will change forever. However, some teachers and teacher librarians may be experiencing 'technostress', burnout precipitated by the lack of time and resources to keep current and confident with new technologies. Because teachers bear a considerable load simply teaching the curriculum as prescribed by Alberta Education, familiarizing themselves with new technologies can be viewed as being an additional burden. This project provides an introduction to the possibilities of the Internet within the confines of curriculum topics. 'New uses of new tools often first resemble more familiar ways of using traditional tools (Harris 1994:48). Teachers can take time to explore these resources within the familiar constraints of curriculum and without taking valuable planning time away from curriculum. Teachers will also appreciate current information, such as statistics about countries or information about current political leaders, information sometimes not available in the school library in print format.

A second justification for the project is that teacher librarians have the responsibility to select cost effective materials to support the curriculum. Assuming that the technology is already in place in the school, the Internet materials on the list are free of charge. As school library budgets dwindle, it is sensible to make use of free available resources.

A final rationale for the project is that searching the Internet is extremely time consuming. A teacher or teacher librarian would find it difficult to spend the necessary hours searching for and evaluating sites. Done within the context of a directed study at graduate school, this project enabled the author to learn strategies for Internet searching, to become familiar with the myriad of resources on the Internet, and to become knowledgeable about HTML, the language in which WWW pages are written.

METHOD

By examining learner expectations and objectives outlined in curriculum guides published by Alberta Education for Social Studies and Science, grids indicating keywords in topics for grades four to six were developed. The words on the grids were searched as keywords using various search engines on the World Wide Web.

Literature searches were not productive, because in spite of the abundance of literature about the Internet, few articles addressed Social Studies and Science sites which correspond with the Alberta Curriculum.

People proved to be a most valuable source of information. Examination of lists of favourite sites (in most cases, general education resources) was useful for leading to subject specific sites for this project.

Listservs are informal but often informative ways of finding timely information. Two such lists were monitored daily for reference to potential Internet sites. They include:

1. LM_NET, Library Media, a discussion group for teacher librarians. This is a high volume list (about 75 messages daily). About 4,000 teacher librarians across the US and Canada subscribe to this group and discuss topics of interest to the school library community, including the latest on services, operations and activities; and

2. COSNDISC, Consortium for School Networking, a discussion group for technology in education. This is a low volume list (four to twelve messages daily) with approximately 750 members. The focus of the list is anything to do with school networking, including technical issues and the Internet. WorldLinks, an email service for updating educators about new Internet resources was subscribed to, and has great potential value for helping teacher librarians keep informed about new sites on the Internet. It can be accessed at <**http://www.smartpages.com/**>.

CHALLENGES IN INTERNET SEARCHING

The majority of sites on the final list were located by searching the World Wide Web using Netscape. Because the Internet can best be described as haphazard, searching the Net is never systematic. At the time of writing this paper there were approximately twenty search engines available for searching the Internet. Each engine covers a certain portion of the Internet and offers different search capabilities. However, the searcher has no way of knowing what portion of the Internet has been searched or overlooked. To complicate matters further, new search engines are being developed weekly. For teacher librarians, who are used to accessing information in an organized fashion, this can be frustrating.

The search experience therefore can be described as chaotic. Originally, keywords from the grid were searched using various search engines. This process led to frequent false drops, or led to sites which, while topical, were not appropriate for the curriculum unit because of reading level or material covered. For example, one Grade five science topic is 'Classroom Chemistry'. When the search term 'chemistry' was used, hundreds of sites were returned as being applicable. However, many sites were mounted by Chemistry departments at various universities, and while they contained valuable information, they were simply not suitable for the grade five unit. In the end, only one site was found for this unit and it came from an educational database which provided lesson plans. This example demonstrates one reason why the search was time consuming. It is estimated that for every item on the list, twenty sites were examined.

Another issue in searching is the mysterious disappearance and reappearance of sites on the Internet. One mistake in typing a URL makes a site unreachable. Even if a URL is correctly typed, a site can be busy and not allow access. Also, URLs frequently change, with the result that a site can disappear from one week to the next.

There are multitudinous education sites which are of a general nature. They are sites like *KidLink*, *Global Schoolhouse*, *Web66* or Canada's *SchoolNet*. Although examination of the links in such sites was time consuming, the rate of finding sites which were suitable for teachers or students was higher than using general subject searches.

FINDINGS

Several points can be made about the status of the Internet today in relation to this project. First, there are many more resources available in the field of Science than there are for Social Studies. One theory explaining this is that the Internet is dominated by scientists who publish profusely on the Net. Also, while sites on American history and government abound, the amount of information applicable to Canadian Social Studies is disappointing. It is anticipated that the rapid growth of the Internet will make more Canadian content available soon.

Because of the haphazard structure of the Internet and the variety of sites available, it is recommended that students do not search the Internet independently or without teacher guidance. One major reason for this is that net searching as indicated above can be extremely frustrating and time consuming. Teacher librarians strive to make the search process for students less not more mysterious. It would be feasible for students to work independently through the sites on this list because the initial search has been done. 'Whatever, don't advise students or others to look to the Web as a place to start. It is an 'interesting supplement' to a well thought out search for information' (Priest 1995).

CONCLUSION

The project undertaken for this study represents only a fraction of the potential of the Internet in education. This project uses Internet resources to support the way teachers teach today, and is recommended as an introduction to the possibilities of integrating Internet resources into classroom practice. The potential of the Internet for key pals, global communication, consultation with experts, teacher support and lesson plans, and interactive units of study is impressive.

A new role of teacher librarians should be to endeavour to keep knowledgeable about developments in the Internet. This task, while demanding, is also exciting and crucial to continuing to provide teachers with the best possible resources to achieve their educational objectives.

REFERENCES

Harris, Judi. (1994). 'People-to-people projects on the Internet.' *The Computing Teacher*. 21, February: 48-52.

Priest, Curtiss W. (1995). 'An impromptu primer on information search strategies.' [Online]. Available email: <cosndisc@list.cren.net> (December 21,1995).

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TOPIC J

ACCESS - FORGET ABOUT OWNERSHIP

INTERNET AND THE FUTURE OF COLLECTION DEVELOPMENT: A TEACHER LIBRARIANS' PERSPECTIVE

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The arrival of on-line information in schools, in particular the Internet, allows students to access the vast store of constantly changing information on the World Wide Web. This changes the whole concept of the 'collection' in a school library and has implications for its size, focus, currency and reliability. In order to promote discussion on this issue I would like to raise some questions, few to which I have the answer. Will the collection, as we presently understand it, exist in the library resource centre of the future? Will teacher librarians actively develop a collection or will we monitor and bookmark the ever changing sources of the Internet? What change does this imply for our professional role?

In *Learning for the Future* (1993:22), it is recommended that 'resources encompass a variety of media and information formats including...electronic resources'. Quantitative and qualitative standards are provided to guide teacher librarians in their selection. However, in the resource centre of the future, information formats may be overwhelmingly electronic and collection development strategies based on a range of media no longer relevant.

Traditionally, collection development has been guided by a collection development policy which provides strategies for analysing the weaknesses and strengths of the collection and a set of selection criteria by which the staff, usually under the guidance of the teacher librarian, can evaluate resources for inclusion in the collection. The ultimate aim of collection development is to provide a collection which supports the school philosophy and curriculum objectives and maximises students' opportunities for learning. Implicit in this is the understanding that resources selected will be reliable, accurate, relevant and accessible. This gives the teacher librarian considerable control over the items which are placed in the collection and is a major professional responsibility. Will the freedom and fluidity which characterises the Internet make it impossible for us to do this?

Collection development policy may be used to 'protect' our students from inappropriate materials or alternatively to justify the inclusion of materials which may be open to challenge. Items will sometimes be selected which may be seen as controversial to provide several points of view, although the extent to which this occurs is at the discretion of the teacher librarian with understanding of the needs, age and ability of the students. With the advent of Internet the practice of 'protecting' our students from inappropriate materials becomes much more difficult, some say impossible. At the present with access available through only one or two terminals it may be possible to overview students' searches, however once Internet access becomes networked this will become more difficult and control will depend on 'acceptable use' policies and agreements between staff, parents and students.

The role of the teacher librarian as 'gatekeeper' and 'protector' will become increasingly difficult to sustain. Access to Internet will force school communities and in particular teacher librarians to modify their use of collection development criteria as a tool for censorship. For example, few teacher librarians would select resources espousing that the holocaust did not occur or was greatly exaggerated. However a search of the Internet will take students to a number of documents which support this point of view as well as documents refuting this.

Material on the Internet may not only be unreliable or biased, it may also be inaccurate or presented at a totally inappropriate level. For example a search for planets may find documents produced by reputable authorities such as NASA or documents produced by Year 8 high school students. Similarly, documents may be aimed at school students or professionals in the field.

Opening our collections to this enormous range of materials both in terms of level and reliability will force a change in our view of collection development. What are the implications if we can no longer rely on the collection development policy to ensure that the resources needed for the assignment are appropriate or even acceptable? The Internet undoubtedly makes the locating of information easy for our students. However it becomes increasingly important that our students develop skills in assessing bias, verifying information and overcome their tendency to rely on one or two sources of information. Our professional responsibility for the collection moves from ensuring that the collection is appropriate to our students needs to ensuring that our students know how to collect information appropriate for their needs.

Internet also changes the need for a static collection of resources of a particular size to serve a school population. For example, according to *Learning for the Future*, a school library resource centre with 1200 students should have 19061 items in its collection. However, these figures bear little relationship to the actual amount of information our students can access via the Internet. The size of a collection can no longer be measured solely in terms of numbers of items, but must include the number of Internet access points and their availability for student use. This has major budgetary implications; with a gradual move away from expenditure on print and other resources to expenditure on providing on-line services.

The currency of information available on the Internet will be another factor reinforcing this trend. In a senior school (Year 11-12) collection, the need to have current information in subjects such as economics, business management and legal studies has always been a drain on the budget. With the advent of sites such as the ***Australian Legal Information Index*** <**http://www.spirit.net.au/~dan/law/**> and the ability to download budget papers and other government documents from the Internet, this pressure is reduced.

Similarly, our film studies students appreciate the ***Internet Movie Database*** <**http://ballet.cit.gu.edu.au**> which provides them with a range of reviews of the latest films as well as technical, cast and production details. Students are now able to access current information which is not only continuously updated but does not disappear from the library when one student borrows it.

Similarly, as more magazines and newspapers go on-line the need to purchase hard copies of these will decline. The Internet will eventually provide access to current editions while the availability of CD ROM versions will meet the needs for archived copies. Few teacher librarians would be sorry to see their tattered and depleted ranks of *Bulletin* or *Time* replaced by on-line or CD ROM access to these same magazines.

The Internet is also invaluable in locating information on unusual topics or those which have not generally been a focus of collection development. For example, while our collection does not contain much information on how to build a worm farm, at <**http://www.nj.com/yucky/worm/recyclers/bins.html**> we located comprehensive details on how to construct one, what kind of worms to use, what to feed them and even an address to send away for worms. We can rely on the Internet to provide for such requests and target expenditure on areas of high demand or in providing more on-line access points.

In our library, print material will continue to provide a focus for research for the immediate future. However, for currency, range of opinion and those 'odd' requests that you never expected, the Internet will become an increasingly useful tool. Collection development will be shaped by this trend. As we gradually move our emphasis to electronic sources of information, expenditure will be diverted from 'current' and ephemeral material to provide for the infrastructure and costs of on-line searching.

REFERENCES

Bennetto, Elizabeth and Manning, Mary. (1995). *Learning for the future developing information services in Australian schools: Teacher resource kit.* Canberra: Australian School Library Association.

Building a collection - what? why? (1994). *The Catholic Cataloguer* 3 (1), February.

Learning for the future: developing information services in Australian schools. (1993). Carlton, Vic.: Curriculum Corporation.

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THE PROVISION OF INFORMATION SERVICES IN NETWORKED SCHOOLS

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AIM

The aim of this paper is to provide an overview of the present state of information networking in Australian schools, its likely realistic development in the near future, and to examine some of the opportunities and issues for schools presented by access to information through global networks.

INTRODUCTION

During 1994 and 1995 it may be said that both the Commonwealth and State Governments began for the first time to take seriously the issues relating to the "national information infrastructure" and the ramifications of major developments in the telecommunications, computer and broadcasting industries. By national information infrastructure, I mean the combination of public and private networks that connects people with people and people with information.

There is little doubt that this flurry of activity was prompted partly by the increased media hype about developments in the United States following the election of the Clinton/Gore administration, and the early concentration of that administration on 're-engineering the United States public service through the use of information technology', together with the growth of the Internet in North America to critical mass which has started to impact on all kinds of organisations.

In a similar way, the former Australian Prime Minister was taken with enthusiasm about information networking, in part through meetings with people like Bill Gates, the Chief Executive of Microsoft. This linked to the former Prime Minister's already evident interests in the promotion of Australian culture and the possibilities for an information technology driven spread of that cultural development through multimedia production and distribution, which had a heavy influence on the Governments' cultural policy statement 'Creative Nation' released in October 1994; as did the strong believe in some government departments that multimedia and information technology represented two future major industry development issues. This stream of thinking, in particular the industry development possibilities, has also influenced some State governments heavily, particularly Victoria where the Premier has given multimedia and communications a high profile in government policy, established an Office of Communications and Multimedia, and created probably the world's first Minister for Multimedia. Whatever the reasons, the number of government enquiries and reports relating to communications and networking over the past two years has been quite extraordinary (see Appendix A).

This indicates not only the high level of government and parliamentary interest in the communication and information services and technology issues, but also the complexity of problems caused by the spread of information technology and the convergence of communication technologies and delivery mechanisms. The move to networking of schools must therefore be seen in the broader national context. The planning for this has spawned a complicated network of bodies within the Commonwealth government, which is expected to look like Appendix B in the near future. While the policies of the new government in relation to communications and networking have yet to fully emerge in detail, it seems likely, given the Coalition's pre-election policy statement 'Australia Online' that the new government if anything will speed up developments which lead to improved access to online services. The replacement of the National Information Services Council by a more active and better resourced Information Policy Task Force also implies a higher degree of public input into policy making in this area. Initiatives of the former government, such as the Accessing Australia program, which will link all public libraries to the Internet, due to come on stream in 1996-1997, seem likely to continue.

In relation to schools there have been significant developments at State level, tied in with commitments given in recent election campaigns. But with so many State governments so recently elected, it remains unclear how fast in practice schools networking will be pushed forward in each State. High hopes were of course raised by the establishment in 1995 of Education Network Australia (EdNA) as a joint Commonwealth/States initiative. However, it is fair to say that there is now uncertainty, or even possibly concern, about the real impact of EdNA at the grass roots level. According to the latest (21 March 1996) update <**http://www.deet.gov.au/edna/ednaup1/htm**> on the establishment of EdNA:

> It is not possible to predict a final form for EdNA as it will continue to evolve as both the technological capabilities expand and as the education sector develops new ways of utilising and exploiting the possibilities of information technology. It is clear, however, that EdNA will encourage and facilitate the use of technology in many ways.

EdNA's web presence is in effect the first prototype of an Australian subject-based collaborative government entry point to the Internet, and may well be taken up as a model for other subject/function entry points by other Commonwealth Government departments (together with State departments where responsibilities overlap, such as in health or business development). This strategy is currently under detailed investigation by the government's Information Management Steering Committee. It is possible that the EdNA entry/directory structure will develop, given enough resources and skills, to provide an excellent starting point for those in schools seeking resources for educational purposes, whether for direct classroom use or by students engaged in more resource intensive projects, as well as for a variety of administrative purposes. But already, there is a wealth of excellent educational material available freely over the Internet (although still not a very large volume of Australian material), and a number of relatively good home page entry points aimed at children and schools-level education, including:

• ***The Global SchoolNet Foundation***	<**http://www.gsn.org/**>
• ***EduLink Learning Resource Server***	<**http://www.uiuc.edu/LRS/**>
• ***OzKids***	<**http://www.gil.com/ozkidz/**>

Ongoing notification of new projects and resources can also be easily obtained through such services as:

• ***InfoList for teachers***	<**http://www.electriciti.com/~rlakin**>
• ***Oz TeacherNet***	<**http://owl.qut.edu.au/oz-teachernet/**>

In practice, while the EdNA web pages may well be a very valuable source for Australian educational materials, and perhaps also act as a catalyst to encourage educational authorities and individual schools to match their more advanced colleagues by providing resources which are visible through EdNA, in practice it is likely that each school will have its own home pages through which the entry to the Internet resources is tailored to reflect the particular curriculum and other interests of that school, and also provides pointers to locally created material.

In practical terms, the state of play seems to be that:

1. An EdNA directory is available in pilot form, a committee is working on a more detailed directory design, and the project is being supported through the Open Learning Technology Corporation (OLTC). The extent to which the directory grows will be highly dependent on input from the education community.

2. Proposals from telecommunication suppliers for provision of national educational communication facilities, priced appropriately for the education sector, are under current consideration by the Department of Education, Employment, Training and Youth Affairs (DEETYA).

3. A contract to purchase desktop and laptop computers under a large volume pricing agreement negotiated nationally is expected to be available in April 1996, offering discount purchasing for schools.

4. OLTC as the governing body of EdNA, will have ongoing responsibility for further development of EdNA under the general oversight of the Commonwealth State and Territories Ministers for Education, Employment, Training and Youth Affairs.

EdNA may yet act as a catalyst to speed up the rollout of at least one point of network access in all public schools over the next three years, and there is every likelihood that with some assistance of the common carriers, EdNA will enable reasonable ongoing costs for Internet use by schools, although that remains to be seen. But funding for schools networking is going to have to come largely from the education departments of the States and Territories, supplemented by the efforts of the school themselves, together with the efforts of parents and other sources of extra school funding. As those of us who have some years of experience of networking in libraries know only too well, the costs of network services only begin when the first machine is connected to the network.

Throughout this conference [ITEC Electronic Networking and Australasia's Schools, April 1996], there are many descriptions of schools that are beginning to provide network access and network service in a variety of ways and a number of interesting and innovative projects. But how realistic is it to expect a significant use of networked information services in most schools in a short to medium term? In my view, any serious use of networked information services in a school would require:

- a school local area network (LAN) linking the library, or classrooms and laboratories, teachers offices and staffrooms;
- a reasonable bandwidth link between the school LAN and the nearest Internet point of presence;
- adequate funds to allow widespread Internet connection;
- a LAN within the library, allowing networked use of CDROMs through an array of PC's/MAC's and multi-disk CD towers; and
- adequate staff for both technical and resource content (Internet and CDROM) assistance and support.

An ideal situation would of course extend well beyond this, with every student position in each classroom wired to enable both desktop and laptop computers to be used by all students in a class, with a screen sharing and control system which allows online teacher monitoring and interaction with individual students (such equipment is now available, eg. the TECH Commander).

Even in the most well-resourced of our universities, with traditional library resources vastly greater than in any school, the access to networked resources for many students is still extremely limited, students often contending for small numbers of workstations in libraries and other network access sites around the campus. How much longer then will it be before any sizeable number of our schools approach the infrastructure investments needed for widespread use by school students and teachers? This is not to say that a few schools may not be able to move very fast, particularly when new schools are being established - the new Lanyon High School in the ACT, for example, has all classrooms linked across a LAN, with a further, albeit as yet limited, link to the Internet (Patulny 1996).

A major issue is then what strategies might be developed to ensure the optimum roll out of networking facilities in schools. This is not simply a question of Federal and State resources. This problem is the focus of the National Schools Test Bed Project in the United States, which has recently moved into its second phase located at **<http://copernicus.bbn.com/testbed2>**. The National Schools Test Bed Project, which involves 250 institutions, is asking the following question:

> Can we construct and manage communication networks and information services to support educational innovation on a local level in such a way that tax payers, governments, and private industry will view their benefits and cost effectiveness as warranting the investment needed to support them on a large scale?

This approach results from the conclusion from the first stage of the project that "...community groups will make the investment required to build the local information infrastructure when they understand and benefit from the infrastructure". This community includes local government, other schools, public libraries and the local business community.

Another major barrier to faster action is lack of skills in establishing facilities at the school level. Fortunately there is now available (but mostly only through the Internet) useful material to assist with this process, eg. the guide for schools available through United States Kickstart Initiative, which is a project to help raise funds that will allow schools to get online, "connecting K-12 schools to the information superhighway" <**http://www.niaac/info.org/~niiac/**>. While United States in origin, this provides the most useful check list for action.

But the simple provision of adequate networked connections and workstations in itself changes nothing. What is needed is understanding of the significance of Internet access for schools and for existing libraries. Schools have been, and still are relatively impoverished information environments. To quote Williams and Bigum (1994) "...classrooms may become spaces which are .... media-free" in competition with the resources immediately available in homes and workplaces through radio, television and the burgeoning range of Internet based communications. Even at the present very early stage of development of Internet materials for educational purposes, a school is now capable of moving overnight from an information poor to an information rich environment. The range of useful educational materials and the communication linkages with others involved in school education is already vast and doubling every few months.

Given adequate network connections, an Internet terminal in a school can immediately become the major channel of potentially useful material, dwarfing the other information resources of any school. It also immediately provides teachers and educational administrators with an enormously powerful professional development tool, enabling them to communicate with others working in the same curriculum areas and ranges of interest. Already there is a strong development of discussion groups and conferences aimed at school educators, both in Australia and overseas (see for example Williams and McKeown 1995). The major question is then how this potential can be harnessed in the existing and new school environment. The answers to this question seem to me complicated and may not yet be known, given the extremely limited experience in schools.

On the one hand, we now have (very nearly) at our disposal a technology which can provide access equally to schools wherever in the country they are situated (ie. the standard of their facilities for information access is now potentially geographically independent) to:

- the most current administrative information available from education departments and other centralised schools - support agencies

- the most current ideas and recommendations on curriculum development from curriculum developments centers and from other schools

- links to the resources of a vast range of libraries (including the national libraries of most countries, including Australia, plus state and university libraries throughout Australia)

- discussion lists, newsgroups and computer conferences on a vast array of topics of interest to education

- communication for teachers and students by electronic mail, within shared information spaces, and by videoconference with a very large number of other colleagues in other schools throughout the world, facilitating cross-cultural exchange of ideas and shared projects

- significant amounts of often freely available texts, images and sound-clips directly useable for classroom illustration, and for inclusion into student projects

- the ability to promote themselves in their community and other places by providing a medium for publishing materials about the school, contact information, and showcasing of the work of students.

With the development of the World-Wide-Web, and its relatively intuitive interface and hypertext links to a very large amount of material, it is for the first time possible for relatively untrained users to use network resources, although there is still no full integration between web resources and electronic mail facilities. This raises real issues in relation to the role of intermediaries such as teachers, and in particular for teacher librarians, librarians and computer support personnel, all of whom have performed analysis and synthesis roles in assisting clients to obtain needed materials, whether in print or electronic form.

In the case of teacher librarians, a key task has been to link to the curriculum and forward planning of information sources that will be needed to support curriculum objectives, and then to provide effective access to appropriate materials at the time they are needed, by both teachers in course preparation, and by students in producing assigned tasks, whether as individuals or in groups. The librarians' traditional role has essentially been in filling the gaps between the production of materials and the time and place at which they are later needed.

These roles seem to me to be as valid as ever in a networked environment. But the ways in which they should be performed will need to be very different. The school is now faced with the creation of an infrastructure which will facilitate very widespread access to and interaction with a very much larger universe of material and other facilities for learning -- documents, databases and people, in a way that the functionality requirements can be delivered through a single channel -- the workstation. This requires a degree of collaboration which is unusual in many schools, and reconceptualism of roles for many staff.

It is my view that the school library in its traditional form is doomed. Locally held resources will not be able to compete with the wealth available at very low cost and convenience through the electronic networks. It is in the interest of creators, schools, governments, telecommunications carriers and even traditional publishers for this to be so. An encyclopaedia publisher for example will make far more money by charging a few cents for millions of people to download an electronic encyclopaedia then selling perhaps a thousand copies in print or in CDROM.

The network of course offers much more than information. While librarians tend to talk about the Internet as an information source, academics and teachers concentrate on its value as a communication device. The Internet offers access to:

- People
- Equipment
- Software
- Data
- Texts
- Multi-media Objects
- Retrieval Devices.

What we are seeing in the Internet is emerging electronic capabilities which on the one hand have grown up through the handling of text on the Internet and on the other through the broadcasting media. Some of these are illustrated below:

TEXT

- E-journals
- Digest/article links
- Listservs
- Newsgroups
- E-mail
- Interactive relay chat
- MUDs/MOOs

MEDIA

- Broadcast
- Narrowcast
- Multicast
- Audiographics

- Audioconference
- Videoconference
- Virtual realities
- Collaboratories
- Shared Design Spaces

In this rapidly expanding milieu, roles of all of those involved in the creation and transmission process need to be reconceptualised. In his wonderful book *Information Anxiety,* Wurman argues that all of us in these areas need to rethink our roles as being part of an "Information understanding business", ie. a service which makes data and information useful, applicable and approachable. In this situation, if there is a role at all for a school library, it will be through teacher librarians and others re-creating that library as primarily a gateway to the world's resources, rather than a local service relating to a small number of locally available resources. An effective gateway service requires it to be:

- A 'one-stop shop'
  - School
  - Local
  - Global
- For all forms of information
  - Print
  - Multi-media
  - Electronic
- User-friendly
- Powerful
- Based on international standards
- Pervasive in the school

Clearly the roles for the new librarian in such a service will include those of:

- guide
- navigator
- interface constructor

- and perhaps, coordinator of publishing and promotion for the school.

But if the gateway is indeed pervasive throughout a school, ie. access to it can be at any point in a classroom, office, staff common room as well as the library, this is likely to mean a reconceptualisation also of the role of the teacher. If there is one form of education that has had a long survival history, it is the concept of the single teacher to group of students classroom approach. But it may be reasonable to argue that in a resource rich environment, such teachers roles must change.

David Penniman has argued that the future will belong to those who take the bold steps necessary to redesign our institutions and methods of operating. Why would we wish to confine the teaching/learning process primarily to a limited number of interfaces between a single teacher (as a relatively poor single "knowledge source") and a class, and between individual students and the very limited resources of textbooks and the typical school library/media centre? In practice students augment these sources by sharing knowledge amongst themselves but once again the Internet offers the potential for students from a much greater diversity of backgrounds to share in this way.

The Internet offers a richness of texts, multimedia and people as interactive resources which can transcend traditional school limitations. Andy Carvin (1995), in a very useful set of articles on the EdWeb site on the role of the world wide web in curricular reform, argues that the WWW has four basic roles:

- tutor
- publishing house
- forum for discussion
- navigator to information.

There are now a very wide range of network-based activities involving schools, and a very useful taxonomy has been developed by Judy Harris (1995) in a series of articles in the *Computing Teacher*. She groups networked based educational activities into three broad groups:

- ***Collaborative problem solving projects.***

These include electronic process writing, information searches, parallel problem solving in different geographical locations, sequential creations by different students, and simulations such as virtual worlds, social action projects and virtual gatherings.

- ***Information collections.***

These projects include database creations, electronic publishing, information exchanges, pooled data analysis and tele-field trips.

- ***Interpersonal exchanges.***

These include electronic appearances to many schools simultaneously, electronic mentoring by experts, global classrooms studying common topics, impersonations involving characterisation, electronic mail keypals, and question and answer services.

But while there are very many projects underway currently the real question is how learning is advanced, and there is a strong need for evaluation of the substantial existing effort going into projects. There are also many opportunities for professional development emerging on the Internet, and one Australian recent development is the OzeKids project developed by the Sunrise Research Laboratory at the Royal Melbourne Institute of Technology. This is a CDROM providing professional development materials for teachers linked to illustrations of resources available on the Net (including some from the National Library of Australia), and envisages linkages of local resources through the CDROM to the Internet.

Clearly remoteness is no longer a barrier to any school once connected to the Internet. But can we actually create an Internet rich environment in practice in the medium term? James Levin (1995) has recently reviewed educational networking interactions, and argues that their success for learning depends on five factors:

1. structure, ie. the definition of clear goals and appropriate technology for their achievement;

2. process, ie. clear timelines and feasible phasing of projects;

3. mediation, ie. leadership by skilled coordinators and facilitators;

4. community building, ie. developing the spirit of community for distributed projects; and

5. institutional support, at highest levels for the organisational changes that may be required.

I agree, but I believe that there are still many barriers to progress if we are to embed the intent of what library/media centres have been all about into a pervasive embodiment in the teaching/learning process. Information isn't a value in itself -- it is the learning and actions that follow that are important. Key barriers to rapid development in schools still include:

- Understanding the potential of the network
- Understanding how networked resources can be integrated into the teaching/learning process
- Teacher skills/motivation
- Student skills
- Resources
- Lack of effective collaborative mechanisms.

Effective collaborative mechanisms need to exist within the school, between schools, as the ACTEIN pilot developments have shown, between schools and resource services, such as major libraries, and between schools and their local communities. We are therefore talking about major efforts sustained over several years. This is an immense task, but schools are not alone -- all of those of us in the information understanding business are parts of the solution. One of the messages I have learned in using the Internet every day over recent years is how willing people are to share and to help when the costs are low enough as they now are. We can and must work together -- certainly I can commit the National Library of Australia to help with this task.

REFERENCES

Berry, David. (1996). What lurks in cyberspace? *Orana: journal of school and children's librarianship*, 32 (1), February: 4-21.

Carvin, Andy. *A new tool in the arsenal: the role of the Web in curricular reform.* 1995 **<http://k12.cnidr.org:90/web.effects.html>**.

Computers in Schools - A framework for development. A discussion paper from the Australian Computer Society and the Australian Council for Computers in Education. **<http://www.clare.tased.edu.au/ascpaper/>**.

Craver, Kathleen W. (1994). *School library media centers in the 21st Century.* Westport, Conn.:Greenwood Press.

Harris, Judy. (1995). 'Educational telecomputing projects: interpersonal exchanges.' *The Computing Teacher*, 22 (6), **<http://www.ed.uiuc.edu/Mining/March95-TCT.html>**.

Harris, Judy. (1995). 'Information collections.' *The Computing Teacher*, 22 (7), **<http://www.ed.uiuc.edu/Mining/April95-TCT.html>**.

Harris, Judy. (1995). 'Problem solving projects.' *The Computing Teacher*, 22 (8), **<http://www.ed.uiuc.edu/Mining/May95-TCT.html>**.

Harris, Judy. (1995). 'Organising and facilitating telecollaborative projects.' *The Computing Teacher*, 22 (5), **<http://www.edu.uiuc.edu/Mining/February95-TCT.html>**.

Heeks, Peggy and Kinnell, Margaret. (1994) 'School libraries at work.' Boston, Spa.: British Library. (Library and Information Research Report 96).

Keane, Maureen. (1996). 'There is nothing so practical as good theory.' *Incite*, 17 (4) April: 8.

Kendal, Peter and Ryan, Michael. *Oz-TeacherNet: connecting Australia's teachers.* 1996. **<http://www.spirit.com.au/ACEC96/papers/kendal.htm>**.

Kenway, Jane. (1995). 'Reality bytes: education, markets and the information superhighway.' *Australian Educational Researcher*, 22 (1) April: 35-65.

Kirk, Joyce. (1996). 'Anticipating needs into the twenty-first century.' *Incite*, 17 (4), April: 10.

Levin, James A. (1995) *Organising educational network interactions: steps towards a theory of network-based learning environments.* **<http://www.ed.uiuc.edu/Guidelines/Levin-AERA-18Ap95.html>**.

Marshall, Gail. (1996). *Thoughtlines: a walk through the technology outback.* **<http://www.spirit.com.au/ACEC96/papers/marsha.htm>**.

Open Learning Technology Corporation. *Trends in educational television in Australia: access and equity issues.***<http://www.oltc.edu.au/reports/edtv/tvtrends.htm>**.

Patulny, Glenys.(1996). *Lanyon High puts Canberra on the Internet.* **<http://www/spirit/com/au/ACEC96/papers/patul.htm>**.

Soloway, Elliot. (1996). 'Digital libraries in the classroom.' *D-Lib Magazine*, March. **<http://wwww.dlib.org/dlib/march96/briefings/03umdl.html>**.

Streetfield, David and Markless, Sharon. (1994). 'Invisible learning? The contribution of school libraries to teaching and learning.' Boston, Spa.: British Library. (Library and Information Research Report 98).

Update on the establishment of Education Network Australia. 18 March 1996. **<http://www.deet.gov. au/edna.ednaup1.htm>**.

Williams, Michelle and McKeown, Lindy. (1995). 'List communities - a way of using Internet for your professional development.' *Australian Educational Computing*, 10 (2), September: 32-34.

Williams, Michelle and Bigum, Chris. (1994). 'Connecting schools to global networks: curriculum options or national imperative?' *Australian Educational Computing*, 9 (2), September: 9-16.

APPENDIX A: RECENT/CURRENT AUSTRALIAN INQUIRIES

General Plans

ASTEC. (1995). *Surf's Up: Alternative Futures for Full Service Networks in Australia.* A Foresighting Study: Information and Communications Technology 2010. Report released November 1995.

ASTEC. (1995). *Australia's Science and Engineering base for Development of Australia's Information and Communications Services and Technologies.* Report released December 1995.

ASTEC. (1994). Study of Australia's Requirements for Research Data Networks. *The Networked Nation.* Report released October 1994.

Broadband Services Expert Group. (1995). *Networking Australia's Future.* Final report released February 1995.

Bureau of Transport and Communications Economics. (1995). *Communications Futures Study.* Final report released June 1995.

DCA. (1995). *Information and Communications Services and Technologies.* National Strategy Statement, 5 December 1995.

DSS. (1995). *Request for Information : National Community Information Network.* Released July 1995.

House of Representatives Standing Committee for Long Term Strategies. (1995). *The Workforce of the Future.* Report released June 1995.

Industry Commission. (1995). *Computer Hardware Software.* Final report released September 1995.

National Board of Employment, Education and Training (NBEET) Employment and Skills Formation Council. (1995). *Converging Technology Work and Learning.* Report released November 1995.

BEST COPY AVAILABLE

Content Issues

Attorney-General and Minister for Communications and the Arts. (1995). *Consultation on the regulation of online information services.* Issues Paper issued July 1995.
Australian Broadcasting Authority. (1995). *Investigation into the content of online services.* Issues Paper released December 1995; Final report expected mid-1996.

Copyright Convergence Group. (1994). *Highways to Change: Copyright in the New Communications Environment.* Report released August 1994.

Copyright Law Review Committee. (1996). *Inquiry into the Copyright Act.* Issues Paper to be released early 1996; Report relating to Categories of Protected Subject Matters expected February 1996, Final Report by November 1997.

National Board for Employment, Education and Training (NBEET) Schools Council. (1996). *Management of Student Access to Controversial material on the Internet.* Report expected April 1996.

Senate Select Committee on Community Standards Relevant to the Supply of Services using Electronic Technologies. (1995). *Report on regulation of computer online services.* Part 1, September 1995; Part 2, November 1995.

Government Services

DAS. (1995). *Electronic Commerce: Commonwealth Government Statement of Direction.* Report released April 1995.

Information Technology Review Group. (1995). *Clients First: The Challenge for Government Information Technology.* Report released March 1995.

Office of Government Information Technology. (1996). *Framework and Strategies for Information Technology in the Commonwealth of Australia.* Public draft released January 1996.

Multimedia/Open Learning. (1994). *Creative Nation: Commonwealth Cultural Policy Statement* Released October 1994.

DEET

Education Network Australia: Business Requirements Analysis. October 1995; Update on the establishment of EdNA, 18 March 1996.

Senate Employment, Education and Training References Committee. (1994). *Inquiry into the Development of Open Learning in Australia.* Reports released: December 1994, March 1995.

Telecommunications Policy

Bureau of Transport and Communications Economics. (1995). *Telecommunications in Australia.* Report released February 1995.

Senate Economics References Committee. (1995). *Connecting You Now - Telecommunications Developments Towards the Year 2000.* Report released November 1995.

Standards Australia. (1995). Interim Exposure Report of the Digital Video Services Task Group released July 1995.

Telecommunications Policy Review. (1995). *Beyond the Duopoly.* Issues Paper released October 1994, some Cabinet Decisions announced August 1995, new legislation Exposure Draft released December 1995.

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WHEN THE BOOK? WHEN THE NET?

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Sometimes the BOOK is better than the NET!

Perhaps it goes without saying. But bandwagons have a way of distorting reality and swaying behaviour. All of a sudden the world is rushing willy-nilly onto the Information Highway in a dash to explore just about any topic and any question. It's as if they believe the NET can illuminate any subject.

Well, it's time we set the record straight and point out the weaknesses of conducting research on the NET. When is a BOOK the best place to turn? When is the NET the best source? When will a CD-ROM encyclopedia or periodical collection outperform them both?

1. WHEN IT COMES TO HISTORY AND COMPLEX ISSUES...

A student recently asked me where was the best place to learn about the Cuban Missile Crisis on the Internet. I dashed onto the Net full of confidence, having recently located the VIRTUAL LIBRARY for HISTORY. I thought I had a wonderful list of sources which would return hundreds of valuable documents. Not so! More than an hour later I was still wandering around with almost no information to show for my efforts.

I stepped off the highway and pondered my failure. Why was there so little about the Cuban Missile Crisis on the Net?

I began with profit as a hypothesis. People who study something for thousands of hours, collecting and reviewing hundreds of documents, usually try to sell their work to a publisher. The publisher then tries to make money by selling a book. I could find references to such books on the Net, but the books themselves were still in hard copy formats. No one had rushed to place free electronic versions on the Net.

Carefully synthesized information is still a valuable commodity in our society. One pays for such information, either by purchasing a book or subscribing to pay-per-view data services such as DIALOG. It reminded me of my first glimpse at Internet versions of magazines offered in the Electronic News Stand. I rushed to open a few of these free documents and found they were little more than Tables of Contents or teaser introductions to lead articles. If you want the real stuff, you subscribe.

The highest quality free information on the NET is generally the governmentally funded studies which have been conducted by university scholars and scientists who have filed them for global sharing on their gopher sites.

Historical work on issues like the Cuban Missile Crisis is in generally short supply.

A VERONICA search across gopher sites turned up a dozen documents, the majority of which were either email messages between amateur historians debating the crisis or were documents which refused to open because their file server was not operating:

Search GopherSpace by Title word(s) (via PSINet): Cuban Missile Crisis

1. Cuban Missile Crisis (fwd).
2. Re: Cuban Missile Crisis .
3. Re: Cuban Missile Crisis (fwd).
4. Kruschev/Cuban Missile Crisis.
5. Cuban Missile Crisis.
6. Re: Cuban Missile Crisis .
7. Re: Cuban Missile Crisis (fwd).
8. RE: Cuban Missile Crisis (fwd).
9. Cuban Missile Crisis.
10. CUBAN_MISSILE_CRISIS.
11. COLD WAR: CUBAN MISSILE CRISIS
12. Cold War: Cuban Missile Crisis/
13. The brink : Cuban missile crisis, 1962 - by David

I did find one valuable resource, a research question filed for students of a college course in Cold War International Relations which pointed students toward, of all things, books:

ESSAY FOR:

Rachael Bradley TR HIS 1992
Beth Hartland TR HIS 1992
David Morgan AI HIS 1991
Paul Owen AI HIS 1992 Andrew Robinson CS HIS 1992

TITLE: To What extent did the Kennedy Administration's management of relations with Castro's Cuba and the USSR, leading up to the Cuban Missile Crisis, illustrate its general practice in the conduct of "Cold War" confrontations? READ: 145 [Divine]; 167 [Heath], 169 [Miroff], 173 [Schlesinger]; 287 [Ambrose], 299[Gardner], 300[Garrison & Gleason], 301 [Graebner], 311 [LaFeber], 314 [McCormick], 316 [Paterson], 318 [Schulzinger] for background--i.e. there are plenty of good general books. Plus--or just use some of these mongraphs, if you prefer:

Graham T. ALLISON 327.73092 Essence of Decision: Explaining the Cuban Missile Crisis (1971)
Jules R. BENJAMIN 327.73097 The United States & the Origins of the Cuban Revolution (1990)
Michael R. BESCHLOSS 327.73094 The Crisis Years: Kennedy & Khrushchev, 1960-1963 (1991)

(The actual list was much longer).

I also encountered a few good documents, such as a letter from Kruschev to Kennedy. It seems that the Net provides some excellent archival information at times.

All in all, the pickings were very slim. I began to form a generalization that the Net was better for currently breaking issues than it was for older questions which had been the focus of serious scholarly thought.

Authors in the 1990s will most often seek publication of their best work in hard copy journals and magazines. It is rare that they would start by posting them to the Net, especially since publishers are reluctant to print such electronically compromised articles.

The best thinking on topics such as the Cuban Missile Crisis is probably still captive of the old technology. Until someone purchases the electronic rights to those articles and books with an eye toward making them available on the Net, we may still find the book the best place to start our inquiry regarding certain questions.

2. BOOKS PROVIDE SYNTHESIZED INFORMATION...

Because most of us grew up with hard copy books serving a central role for research we conducted from high school, most of us probably haven't stopped to think very long about their advantages over the kind of material available on the Internet.

A carefully crafted book on a complex non-fiction question is often the result of someone spending 18 months carefully collecting and then culling thousands of documents in order to distil all that information down into a relatively compact parcel we call a book.

Books save us a whole lot of trouble -- which is both a blessing and a curse -- as the selection and culling process can be a powerful aid to bias. If we want to evaluate Kennedy's leadership, we can consult half a dozen books, find the authors' opinions, weigh their evidence and build our own case.

If we tried to conduct the same inquiry from scratch, it might take us 18 months to sort through the Info-Glut. Good books have done the sorting for us. If the thinking of the author is sound, books take us quickly to the insight level and they also provide enough data to show the foundations of the author's thesis.

Researching on the Internet, in contrast, usually requires us to start with raw ingredients. If we hope to reach the insight level, we must first cull through the Info-Glut, sorting and sifting our way toward meaning.

3. ELECTRONIC BOOKS WOULD BE EVEN BETTER...

This is in no way meant to suggest that hard copy books need maintain their dominant role. If we could convince the publishers of books and journals to make their files available on the Information Highway without exorbitant fees, the searching capabilities of new software might make such electronic books superior to the hard copy versions.

Imagine being able to scan quickly a dozen books on Kennedy's decision, locating the crucial passages and sections in mere moments. Electronic text can be swiftly downloaded and collected in formats which make later consideration and review much easier than the antiquated note cards we grew up using.

For those who have used electronic books on the Internet (Project Gutenberg, for example), the power of such formats is evident. We should all work to expand the texts available throughout the gopher sites of the world so that history, social science and complex issues can be explored via the Internet.

4. CD-ROM MAY ALSO BEAT OUT THE INTERNET...

EBSCO's Full Text Elite contains thousands of contemporary magazine articles, some of which include full text. A search for Cuban Missile Crisis calls up 73 documents containing those words. Quite an improvement over my search with Veronica.

Until one begins to survey the 73 articles and discovers that almost every one of them contains nothing more than an oblique reference to the Cuban Missile Crisis. Most compare Clinton's handling of some foreign policy crisis to Kennedy's handling of the Cuban Missile Crisis. The two or three most promising lead the reader to a review of a BOOK! A few short paragraphs leave us with little insight and fewer facts. Buy the book!

It seems that CDROM collections of current periodicals are not much more helpful than the Internet when it comes to study of events which took place 34 years ago.

CONCLUSION

We keep coming back to the book. For certain questions it remains an excellent piece of information technology. In many cases, the carefully distilled information contained in a book may provide superior access to insight. Library media specialists and classroom teachers whose students are lucky enough to have broad scale access to the Internet need to carefully consider when the resources available on the Internet are worth mining. Chances are, given the current nature of the information available on the highway, time may often be spent more efficiently and productively using other information resources.

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DEATH OF THE BOOK?

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THE PRESENT

A lover of books whose working life has been devoted to encouraging children to read them, I meet teachers, parents, publishers, writers and artists - all accomplished and creative - committed to the same cause. I see many well-stocked library shelves and prosperous bookshops. Children and adults alike clearly love their books and welcome the opportunity to meet those who have created them, or those with whom they can share their literary enthusiasm. Books are widely reviewed in print, on radio and on television. Book-related information such as prizes for literature, instances of fraud, and 'dangerous' publications sparking censorship debates rate as 'news'. It would be easy, but foolish, to make a comfortable room of this present, with no windows into the lives of the majority of adults and children, who do not see books as something they couldn't live properly without.

The book - 'a written or printed work with pages bound along one side' - is clearly no longer the best format for some of its customary contents and functions. 'Choose Your Own Adventure' stories are much more fun as computer games; statistics are much more useful as computerised databases programmed so that you can manipulate them for meaningful display; the latest field reports on an endangered species are much more immediately accessible via an appropriate Web site; and information on the current lifestyles of people far away may be best gained directly through email communication with them. Cinema and television are effective media for telling stories, showing places, setting moods and exploring characters. It must be remembered that many people read books only because they needed the information, or wanted the entertainment, and could not get it any other way. The survival of the book when access to electronic sources is easy and cheap, once people of the pre-television generations have died out, is therefore problematic.

The Complementarity of Books and Hypermedia in Learning Now, while teacher librarians are becoming ever more involved in providing interactive multimedia resources and students are accessing the Internet at home and school, is the time to consider what might be lost with the death of the book. Sven Birkerts' essays *The Gutenberg Elegies: the Fate of Reading in an Electronic Age* (1994) reward close, reflective reading both for the insights therein and for that pleasure of prolonged interaction with a fine mind which only reading a book can give. He suggests that 'the more complex and sophisticated our systems of lateral access, the more we sacrifice in the way of depth'. In an evolutionary process, students are developing 'an expanded neural capacity, an ability to accommodate a broad range of stimuli simultaneously', at the cost of 'a reduced attention span and a general impatience with sustained inquiry' (1994:26-7). The survival of the book depends on students' experience of reading good books slowly and seriously as a vital part of their humanistic education and their consequent appreciation of the medium.

Because books are univocal, linear and author-dominated, they offer skilled readers a complementary way of knowing: 'a chance to subject the anarchic subjectivity to another's disciplined imagination, a chance to be taken in unsuspected directions under the guidance of some singular sensibility' (Birkerts 1994:164). Whether readers embrace or reject what they understand to be an author's message, a good book provides a model for transforming data and information into a unified (though perhaps temporary), sustained, meaningful, personal synthesis. This will become even more important as use of the Internet increases, because, though the process of reading hypertext enables students to gain a sense of the interrelatedness of all information, moving across its multi-dimensional webs can be as complex and puzzling as the chaos of life itself.

FILM AND VIDEO: THE BOOK AS SOURCE

Many films are not derived from particular books. However, when Steven Spielberg accepted his Thalberg award for continued excellence in film production at the 1986 Academy Awards ceremony, he emphasised the role of writing in movie-making:

> **We are, first and foremost, storytellers...In our romance with technology and our excitement exploring all the possibilities of film and video, we have partially lost something we have to reclaim... It's time to renew our romance with the written word.**

Spielberg understands the contribution writers and readers who love the subtleties and richness of language make to the pool of possibilities for stories and imaginative response available to authors in all other media. Reading books can stimulate thought and feeling in such a way that 'times and spaces open, different from measurable time and space' (Calvino 1992:156). These openings allow creators of texts in other media room for their interpretations or act as windows into new worlds and different ways of telling about them. This potential does not guarantee the continuing publication of new texts in book format though, because there are so many good books already available.

THE LIFE OF THE BOOK

It is difficult to spark a new romance with the long-established written word, however, when students can discover so much via electronic media, the capacity of which is expanding before their eyes. But there are some indicators of the life of the book to comfort book-lovers and to point out to students at teachable moments.

- The lasting qualities of 'classic' books, which are in a format that can be re-interpreted in a range of media for new generations. *Pride and Prejudice* springs to mind. Could we have produced the current television series solely from the early film?
- Information stored for pragmatic, ephemeral reasons leaves big gaps which later generations often wish to fill. Old books -- frequently fictional -- can provide missing details and a sense of what is was like to live then. The capacity of resources in other media to fulfil this function has yet to be proved. Read *Andra* (Louise Lawrence) and *A Canticle for Liebowitz* (Walter Miller) to explore this idea imaginatively. We do not know which things, unimportant to us, may be required in future.
- A book is produced in such a way that you know that the author/s have agreed to the contents in that format. This is very difficult with other media, which can be manipulated endlessly until you are uncertain about correct attribution.
- Books are manifesting innovations in style inspired by developments in other media and the skills readers have developed through interactions with these media. Margaret Meek (1991) points out that, as a result of television, children are better at inferring character and action from dialogue than they used to be. Many authors of recent children's fiction use more dialogue, less explicit interpretation of the action, and fewer descriptive passages. The ways in which films can let the viewer see and hear from the point of view of a character have also carried over into some of the writing (Caswell 1994).
- Young writers are emerging, writing books for adults and children. Tim Winton was only nineteen when his first book was published, and has continued as a professional writer; Sonya Hartnett, at twenty-eight the author of four books read by teenagers and adults, studied other media but has chosen to write books.
- The artistic quality of picture books for children and graphic novels for adults is much higher than anything on computer screens. The aesthetic qualities, portability and independence of plugs and bugs still make a well-produced book appealing.
- As computers become associated more than ever with work, the book may become more attractive as a medium associated with leisure. This may prolong the life of some kinds of books and inspire appropriate innovations.

THE FUTURE OF THE BOOK

Already, book-buying by people under thirty has declined, and publishers are diversifying their wares into audio and CDROM formats. As the irritating aspects of current technology are smoothed away, more people will abandon books for some or all of their information needs than are now prepared to do so. Only the committed, serious book readers will remain, and it will become increasingly difficult to get new books in literature and the humanities published for this decreasing potential readership. Professional writers will have to turn to other media.

As more children learn to 'read' on computer screens at home, the linearity of print in books and the kind of attention necessary for understanding will seem increasingly difficult for them. Only the most engaging children's books will be used successfully for the teaching of reading. The bottom will fall right out of the market for informational books for children over seven.

The 'great books' which are studied at schools and universities are already available in electronic formats, with hypertext links which enable students to explore every imaginable aspect without moving from their chairs. This trend will continue. Commercial and academic considerations will determine a small number of authors and books for this exhaustive treatment, while many excellent books which are not set for study may disappear from libraries as the last copies wear out.

NECESSARY AND SUFFICIENT CONDITIONS FOR THE SURVIVAL OF THE BOOK

Archivists will see that books exist as artefacts, but their role as an organic part of life and learning in the future depends on whether a critical mass of people (now young or unborn) appreciate them. As libraries must invest hugely in electronic media, it is inevitable that many book collections will deteriorate in currency and quality. The downward spiral of sales, publication, and student satisfaction with the books they consult will be difficult to prevent. In this climate, it will be harder than ever to facilitate a range of book-related experiences which turn more than a small minority of students on to the medium.

There is an 'interactivity' about reading books which has nothing to do with pushing buttons or putting oneself in every scene or story, and a 'liberation' which has nothing to do with one's power to change a story, and everything to do with paying passionate attention to, and reflecting on, someone else's story. These things can be learned only by experience, and the way in which society is now developing is not conducive to such experience. Schools already have too much to do: it is hard to see how they can rise to the challenge of equipping children to use interactive multi-media technologies intelligently and, at the same time, inducting them into the deep and serious reading of books.

The writer of books may 'take a place beside the scrimshaw artist in the museum of hallowed but ultimately useless crafts' in the future unless a higher proportion of students than ever before leave school knowing from their reading of books that this process 'offers an essential experience available nowhere else... the deeper picture of things' (Birkerts 1994: 209). Unless current developments in mainstream education and society change direction, the death of the book is a depressingly real possibility.

To end on a positive note, reading and writing are more important than ever. Skills in some kinds of reading and writing will, I feel sure, increase as a result of electronic information retrieval and communication. While these skills exist, so does the possibility of the resurgence of the book.

REFERENCES

Birkerts, Sven. (1994). *The Gutenberg Elegies: the Fate of Reading in an Electronic Age.* Boston: Faber.

Caswell, Brian. (1994). 'The Fantasy Phenomenum.' In *Inheriting the Future: Yesterday, Today, Tomorrow: Conference Papers of the School Library Association of Queensland 4th Biennial conference 20 -24 September 1994.* Toowoomba: Toowoomba Education Centre, 214-227.

Meek, Margaret. (1991). *On Becoming Literate.* London: Bodley Head.

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TOPIC K

COOPERATIVE PLANNING & TEACHING:

A COLLABORATIVE TEACHING MODEL FOR THE 21ST CENTURY?

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COOPERATIVE PLANNING AND TEACHING: A COLLABORATIVE MODEL FOR THE 21ST CENTURY?

A POINT OF VIEW

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With a major focus on the advent of the Information Age, students who enter schooling today must develop skills to become independent lifelong learners. A key focus of teacher librarians has been to develop retrieval and interpretation skills with students. With the global nature of information it is necessary to emphasise the evaluation of the retrieved information; to provide our users with an ability to assess information and test for authenticity, reliability, bias and prejudice. Accessing and using information in an electronic world has become a complex task. Now, more than ever, students need to develop information literacy skills within a resource based learning environment to survive in the Information Age and beyond.

Beare, Caldwell and Milliken (1989), Caldwell and Spinks (1992), Cotter (1995) and Beare (1995) have predicted some of the following trends in education:

- individualised programs for every student;
- individual progression at the student's own speed;
- most learning by computer and interactive TV;
- most learning in the student's own home;
- teachers working mainly as facilitators and counsellors; and
- teachers working as much in students' homes as at school.

These trends clearly mark the way for teachers and teacher librarians to be more involved in guiding, helping and supplementing the learning in schools and facilitating a need for educators to work cooperatively and collaboratively.

The teacher and the teacher librarian will need to join forces to work smarter, not harder; to maximise instruction to achieve student learning outcomes. Collaborative teaching will need to focus on an integrated approach to the teaching of information skills across the curriculum. The model for cooperative planning will need to be flexible to encourage creativity of the authors and to take into consideration the different levels for students' communication and learning styles.

Out of the necessity to survive in the teaching world for the 21st Century, a strong working relationship will need to develop between teachers and teacher librarians. Both parties will be required to maintain a level of professionalism to be able to understand the developmental nature of curriculum programs and curriculum organisation and delivery. They will need to live in a world of give and take and share a mutual concern for their students.

Within the information processing framework, the planning stage is only the beginning of the collaborative teaching process. Teachers and teacher librarians will need to see themselves as active partners in the teaching process and engage students in an active learning environment where they gather and use information to extend their knowledge base. Content and the process of learning will draw the two parties together in a collaborative effort. An information skills continuum will provide the framework for the development of various effective teaching and learning strategies and activities, linked to learning resources to engage students in an inquiry based approach to learning.

Typically the teacher librarian's role has been bypassed and overlooked when it comes to classroom program development. Alternatively, the importance of the resource centre as an effective learning environment has been played down as the facilities and resources located therein are only there for the self-starter. Also, many a teacher librarian is unaware of the research activities of the school until there is a request from clients for materials or they are accosted in the staffroom or corridors for a quick informal request for assistance. Following the Haycock presentations in Australia many a teacher librarian indulged in an evangelical mission to introduce the philosophy of CPT and spent their energy on this effort, usually to little or no long term avail.

Alternatively, the teachers kept to their own world and used either text or pre-prepared workbooks or their own resources to teach their students, indicating there was no need for either a teacher librarian or a resource centre. Another scenario was for teachers to request from the teacher librarian a 'bank' of resources that they took to the classroom and used during the unit of work.

In the 21st Century it will be important and necessary that these attitudes change. Scheduled planning and the use of the resource centre and its staff need to be seen as essential for the enrichment of learning and teaching within the school environment. Formal planning needs to be done between teachers, students, teacher librarians and other support staff. Resource based teaching and learning activities need to be integral to the classroom program rather than as a supplement. Student learning outcomes reflect a holistic nature. This holistic approach facilitates the involvement of the teacher librarian in the development, implementation and evaluation of resource based units and guarantees the resource centre's facilities and services are part of the instructional program. The teacher works in partnership with the resource centre staff to develop a resource based unit that will use the resources and the skills of the resource centre staff. In a collaborative way the teacher and the teacher librarian contribute to the planning, design and delivery of the curriculum program within the school.

The model for CPT will not be startlingly different from what we know today. It will be clear in its objectives, give details of teaching/learning activities and be flexible in its delivery to cater for student learning styles and abilities. The teacher, as the content specialist, may choose a topic appropriate for the year level and may determine goals and objectives for the unit. The following headings presented in 'Cooperative planning models' (Ames et al., 1995) could be considered:

Goals:
Lists the broad goals to be achieved for the unit. (May be linked to curriculum guidelines/frameworks).

Content objectives:
Lists realistic and achievable objectives of what knowledge will be acquired from the unit.

Information skills objectives:
Using an information skills processing framework, the skills to be taught/learnt will be listed to cater for the process of learning/teaching.

Cooperative teaching plan:
This section provides detail about the specific responsibilities of the teacher and the teacher librarian. These tasks will be decided upon after discussion and the overall planning process for the unit has taken place. The activities listed here will reflect each partners role in the delivery of the unit.

Timeline:
A time frame needs to be decided. This helps to keep the unit on target and allows for forward planning for meetings before, during and after the unit, the amount of time the class will work on the tasks and the days that the resource centre will be utilised by the students during the unit.

Resources/Materials:
A bibliography needs to be logged to support the unit. These resources may be teacher reference and/or student learning resources that are appropriate to the unit.

Room arrangements/Equipment needs:
A listing of specific requirements needed to support the delivery of the unit needs to be noted.

Cooperative learning opportunities:
A list of activities needs to be planned to provide learning opportunities for all students involved in the unit.

Sub-headings relating to suggested extension work that provide challenges for gifted and talented learners can be documented. Also, adjustments to teaching/learning activities can be documented to accommodate for varying learning styles and student abilities. It is important to build in opportunities for students to experience success within the unit of work.

Assessment:
Lists the assessment to be completed. Evaluation needs to occur at each stage within the information process framework if giving honest and constructive feedback to the students on their level of achievement. The teacher, teacher librarian and the students can participate in this activity. The teacher and the teacher librarian can actively assess the overall success of the unit of work and record strengths and weaknesses. Notes should be kept of special/idiosyncratic happenings during the course of the unit.

This model provides a process for the full development of CPT, but can be used to focus on specifics where applicable in the partnership between the teacher and the teacher librarian. Integrated into this process must be the teaching of information skills. Thus, the teacher and the teacher librarian become active partners in the delivery of information literacy across the curriculum. Neither party owns the process.

After planning, the teacher may initiate a brainstorming session with the learners to help them develop an overview of their topic, an understanding of the words and related concepts. The teacher librarian would help students define the scope and range of resources available to complete the task. Both parties could be involved in helping students to integrate information into related concepts.

The locating section is relevant to the teacher and the teacher librarian as they guide students in the identification of appropriate resources through familiarity with the wide range of resources available within and without. The students can identify information resources and match the appropriate resources to their research task. Students can become familiar with the world of the information age as they are guided through the search strategy.

Students can work cooperatively and interact with their facilitators (teacher and teacher librarian) as they take notes and record relevant information in the selecting stage. In the organising stage the teacher can facilitate as the students analyse and synthesise the information they have gathered. This is an important stage in the information process and is often overlooked. It is crucial that students develop skills at this level to handle the complexity of interpretation of the information gathered. This is where the teacher and the teacher librarian can work together to encourage students to construct their own knowledge by posing meaningful questions. Students will develop a variety of skills ranging from summarising, comparing and contrasting through to synthesising, drawing conclusions and conceptual connectivity.

As students create and share their newly acquired knowledge the teacher and teacher librarian will assist the students in their style of presentation format. General literacy skills might be pursued in class while visual and multimedia presentations might be pursued in the resource centre or IT room.

An evaluation process is a must. The student needs to have the opportunity to evaluate the process of learning and the strategies used and to evaluate the end product. They can be supported by their teacher or the teacher librarian throughout the information skills process during the unit. Student strengths and weaknesses can be identified and the learner can be assisted throughout the unit to make adjustments to achieve an appropriate learning outcome for the unit.

CPT will need to become a team process involving the teacher, teacher librarian and the student as the curriculum moves towards a student-centred, inquiry based mode of delivery of curriculum programs. This collaborative approach to teaching and learning requires a conscious effort and a commitment of time. All curriculum units cannot be planned in this way in a short space of time. It is imperative that selection for the development of CPT units is undertaken with success in mind.

Don't team up to experience failure or pain.

REFERENCES

Ames, Sandra and others. (1995). 'Information skills model: information skills.' In *Teaching electronic information skills: a resource guide for Grades K-5*. Rev. ed. McHenry, IL: Follett Software Company.

Ames, Sandra and others. (1995). 'Cooperative planning models.' In *Teaching electronic information skills: a resource guide for Grades K-5*. Rev. ed. McHenry, IL: Follett Software Company.

Beare, Hedley. (1995). *What is the next quantum leap for school systems in Australia?: The 1994 Currie Lecture*. (ACEA Monograph Series). Hawthorn: ACEA.

Beare, H., Caldwell, B.J. and Milliken, R.H. (1989). *Creating an excellent school*. London: Routledge.

Caldwell, B.J. and Spinks, J.M. (1992). *Leading the self-managing school*. London: Falmer Press.

Cotter, Richard. (1995). Education faces the technology Renaissance. *Directions in Education*. 4 (9): 1.

Nimon, Maureen. (1996). Teacher-librarians - new directions? *ACCESS*. 10 (1), March: 9-11.

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COOPERATIVE PLANNING AND TEACHING: A COLLABORATIVE MODEL FOR THE 21ST CENTURY? - A POINT OF VIEW

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OVERVIEW

It is argued in this paper that Cooperative Planning and Teaching will remain a model of collaborative teaching for the 21st century because the methodology is soundly based on good educational principles. However, cooperative planning and teaching, as practised in Australia in the 1980s and 1990s under the acronym CPT, in many instances took a form which required a particular conjunction of factors for its successful implementation. This form will remain valid in schools where the right conditions prevail or can be created (see Henri 1988), but it is not transferable to all schools. Moreover, technological, educational, political and economic changes occurring now and likely to occur in the future will probably diversify even further than exists at present the range of resource centres and the manner of their staffing, so that while methodologies and strategies by which to achieve the educational goals of the resource centre will be as vital as ever, the practice appropriate to a particular school may vary considerably from that followed in others. The fundamental principles of good educational practice are universal. The successful application of them in different schools is not. It is the professional role of the teacher librarian to determine how the school's information services can best contribute to the educational goals of the school.

COOPERATIVE PLANNING AND TEACHING

For the information services of the school to achieve the goal of supporting student learning, they must be integral to what happens in the classroom. To say so is to state the obvious, yet the point is so important that it must be the starting point for any discussion of the work of the teacher librarian or the function of the resource centre. The challenge for teacher librarians is how to bridge the organisational and conceptual gaps between classroom and resource centre. The resource centre operates under one system of organising knowledge and serving clients; the classroom another. The teacher librarian has to both retain the integrity of the library to serve library purposes and adapt and attune them to meet the variety of needs of different teachers and students.

Once the main approach by school librarians to the challenge was to teach the students library systems through library lessons and leave the students to work out how the library systems could be useful to them in their studies. Most students proved incapable of seeing any connection between the two. By the early 1980s, Joan Brewer was arguing that the proper use of school libraries required teachers to be 'closely involved' with librarians in planning the library program. She also argued that the librarian was a 'member of the teaching team' (Cook 1981:41). In the mid-1980s, the work of the Haycocks became available to Australians and teacher librarians throughout the country were vitalised into action by their writings and the workshops they ran here. CPT became the catch cry and invaluable progress was made by those who sought to implement CPT programs. The chief features of the programs the Haycocks offered were their grounding in sound educational principle, theory and research, their clear statement of goals and their detailed and practical strategies for practice. All future models for programs run by teacher librarians must meet similar criteria. CPT also incorporates principles which must continue to guide practice. They are:

1. student use of information services must be an integral part of their classroom studies; and
2. the person in charge of information services must be a teacher.

Integration cannot be achieved without an understanding on the part of the information services manager of teaching and learning processes; such integration is only possible where:

1. student use of information services is jointly planned by teacher librarian and teacher and jointly monitored;

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2. the range of skills, attitudes and strategies required by the learner to use information well in the learning process is such as to require a whole school approach to their teaching; and
3. senior staff have a responsibility to create the conditions under which the school's information services can operate to maximise student learning.

It is impossible to establish a picture of CPT practice in Australia in the late 1980s as little research has been done as yet on the subject. But national journals such as *ACCESS* recorded the enthusiasm with which many undertook to advance the cause of CPT and their successes. It appears, however, that CPT worked well mainly in primary schools, where teachers were more accustomed to team teaching than in high schools, where the senior staff of the school gave support, either in a limited or more whole-hearted fashion. Certainly there were many high school successes, but the emphasis on subject teaching in high schools and on faculty organisation both worked to make team teaching with the teacher librarian more difficult. Moreover, the subject approach to teaching means that knowledge of the subject is the dominant factor in using information services appropriately for a learning task, so that the teacher librarian is not as well placed to take the initiative as he or she may be in a primary school.

One weakness of CPT as some tried to practise it was the teacher librarian's insistence on a totally resource-based approach to a CPT program and to teaching 50% of the program or a very substantial part of it. Such an approach was valuable in some instances as demonstrations of how the resource centre could be used in a teaching/learning program. As initial forays in a campaign to get better use of the resource centre, many programs of this kind were of great importance. To treat this as the only form of CPT, however, suggested that running a library was something an aide could do, that resource-based learning only took place in libraries, that one teaching methodology was 'right' and others weren't, and that the teacher librarian had rather a lot of time free.

There have been enough examples of good CPT practice for us to be able to say that in some conditions CPT as we know it in this country is the right approach for a resource centre program and while those conditions prevail, CPT will remain valid into the twenty first century. However, other forms of 'CPT' will also be needed if information services follow in the present day pattern. A recent article by Kirk (1996) suggested a different model.

Collaboration between the teacher in charge of information services and the teacher in charge of a class must be the linch pin of successful information services. The form in which the teacher librarian teaches will depend on the conditions prevailing in the school. For instance, in high schools the study programs of senior students are becoming more individualised by educational changes in Year 12 assessment. This alone will mean that the teacher librarian's skills will be increasingly called upon by students as individuals or in small groups. Where this happens, the teacher librarian will be planning with the teacher in a more general sense and with the students in a more particular sense. The idea of a jointly taught program planned by teacher and teacher librarian doesn't apply. Joint planning for student use applies; teaching by the teacher librarian applies, but not CPT in the 'traditional' form. When the individualising of student learning is amplified by the impact of the greater range of information formats made available by information technology, then the need for the teacher librarian to work with individual students -- and teachers -- on a one-to-one basis will increase accordingly. The teacher librarian's teaching is being changed by the changes in the nature of the collection and its services. CPT as conceptualised in the late 1980s and early 1990s was still shaped by a classroom approach to teaching. As the classroom approach is modified, so is the way the students will use the school's information services.

Political, economic and educational trends of the moment point to the differences between schools across the country and their information services becoming greater and greater. At present, the Coalition Government is planning to cut back substantially on the Commonwealth's role in Australian schooling. As the Commonwealth's role was to standardise schooling as far as was practical and desirable, the diminution of its activities will necessarily see greater diversity in all aspects of Australian schooling. This trend will be magnified by the greater role of state government education departments and the move towards giving schools control of their budgets.

The principles of good educational practice remain valid no matter what other changes occur, though our understanding of them may and should change. Those in charge of school information services must remind themselves constantly of those principles. Information services in a school exist solely to support learning. This must guide our every decision. But as circumstances in schools become more varied, there will be a greater weight of responsibility on the information services manager to interpret what strategies and practices will achieve the goal best in this particular school.

REFERENCES

Cook, J. (ed). (1981). *School librarianship*. Sydney: Pergamon.

Henri, J. (1988). *The school curriculum*. 2nd ed. Wagga Wagga, N.S.W.: Centre for Library Studies.

Kirk, J. (1996). Anticipating needs into the twenty-first century. *Incite*, 17 (4), April: 10.

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CPT: DRAWING A CONCEPTUAL LINE IN THE SAND

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Recent papers have called into question the continuing legitimacy of collaborative planning and teaching (CPT) as a defining role for the teacher librarian. It has been suggested that, while teacher librarians can learn much from an analysis of this concept and an investigation of its practice, the realities of the 1990s dictate that teacher librarians must move on and redefine their role and priorities. I want to argue that far from being a discredited or old fashioned concept CPT provides a line in the sand that distinguishes the teacher librarian from the teacher and the librarian. More than that CPT is the means by which TLs are able to play an effective part in the teaching and learning program with respect to both students and teachers.

I have noticed that others have misunderstood my published position on CPT and perhaps my own position has shifted. It is therefore important to clarify what is meant and not meant by the concept even before one debates its worth. Since the Haycocks are regarded as the original CPT gurus it is worth recalling what they had to say. In 1985 Ken Haycock argued that the TLs major task is to work with classroom teachers to plan, develop and implement units of study which integrate research and study skills (Haycock 1985). A twist to this definition was provided by Carol-Ann Haycock in her seminal work (Haycock 1988). She noted that CPT refers to the essential role of the teacher librarian in planning units of study with classroom teachers to integrate those skills and processes necessary to develop students committed to informed decision making, cultural and literary appreciation and lifelong learning.

The Haycocks argued that CPT is a concept, a strategy, an approach to teaching and learning. CPT does not constitute a 'set' program of instruction, but rather a philosophical framework for the development of resource based programs which reflect what we know about how students learn. CPT provides the philosophical framework for the work of the teacher librarian and is not just another service function. The purpose of CPT then, is to develop learning experiences or units of study that effectively integrate students resource centre activities with other learning experiences.

According to Haycock CPT is undergirded by a number of critical cornerstones. First, the partners in the process (TL & classroom teacher) should enter the partnership as equals. The TL possesses neither superior consultant status nor inferior service status. Second, the school should establish an information skills continuum to provide a context for CPT. Third, because the TL is a professional teacher s/he must be prepared to assume a teaching role. Fourth, the TL must be prepared to be a change agent.

Ken Haycock (1990) provided further detail with respect to CPT. He suggests that the TLs role in the planning process is crucial. He argues that for learning resources to have validity in the instructional program, their use must be carefully planned through integration with the curriculum. With respect to teaching he states that the contribution of the TL extends to the specific needs of the student. This means that the TL may be offering remedial teaching, leading novel study, managing behaviour or teaching in other ways suitable to the particular level, subject, unit and objectives related to resource centre use as determined cooperatively by the team.

In an attempt to clarify the notion of partnership, Henri (1992) suggested that when the TL enters into partnership with the classroom teacher, s/he is there not simply as a generalist teacher but rather as a specialist teacher. This means that the division of unit responsibilities must reflect and use the expertise and knowledge associated with teacher librarianship. The TLs major involvement should relate to process factors and information literacy and must be seen as natural and appropriate.

Nimon (1996) claims that the key functions of the TL continue to be to help teachers to use information resources effectively in their teaching and to assist students to become increasingly independent in their learning from a diversity of formats. In this context she suggests that while Australian teacher librarians have learned much from the Haycocks it is time to move on. She states:

> I believe that what we could learn from...[CPT] we have incorporated into our philosophy, our goals, our professional documentation, and, while not abandoning the gains we have made in the process, it is time to look at the special needs of today, develop new strategies to add to our repertoire and new terms to describe them.

Keane (1996) makes the further claim that:

> in our advocacy of CPT, we have neglected the fundamental principle of a service organisation, that of meeting the clients' needs.

Mobley (1994) finds further fault with the Haycock's CPT model. She suggests that in the Haycock model:

> the role of the TL in the process was seen as critical. As they saw it, advocating and implementing the method was primarily the responsibility of the TL. There was much emphasis on the TL as a charismatic figure who had to be educational leader, change agent, and team teacher, sweeping a radical educational movement through the schools.

She suggests that this is largely unrealistic. In similar vein, Keane (1996) quotes a student as reporting that:

> James Henri believes that people who are paid to teach must teach. Fair enough, but he writes this in support of a resource based model of learning, while implying that we are only seen to be teaching when we are standing in front of a class! Isn't it more pertinent to a resource based model to educate other staff in how we can 'teach through the library'?

These claims deserve a reply but prior to that there is a more fundamental point to be clarified. How committed are we to the view that TLs should be teachers? There is in my opinion no more important question at the moment. Typically, special librarians do not hold an academic qualification in the discipline area of their library. Medical librarians are not typically qualified medicos. Law librarians do not typically hold law degrees. Librarians working in scientific libraries are quite likely to hold an Arts degree. These same librarians would argue that they are information experts within their organisations who are very capable of meeting the information needs of their clients. While an academic background in the discipline served by the library might be an advantage it is generally argued that law librarians don't need a law degree because they don't practice law. In like manner it can be argued that if school librarians don't need to teach then they don't need to be a teacher. A competent special librarian could mount an effective information service in a school.

It is likely that TLs will continue to argue that they need to be qualified teachers: Who wants to write their own death warrant? Such an argument must be based on issues of substance. It is certainly unacceptable to suggest that the TL must be a teacher but teaching by the TL is then regarded as an optional extra. So we continue to claim that the TL must be a teacher. The next question that must be addressed is 'what does that teaching look like?' In what ways does that teaching differ from the 'teaching' performed by a children's librarian or by a special librarian or even by a story teller? I would suggest that a difference should be identifiable with respect to the theoretical underpinnings and the breadth and sophistication of the teaching practice. Furthermore one would expect the qualified teacher to be able to tailor the teaching program to take account of individual differences. One would expect that a qualified teacher would be involved in the totality of stages of instructional design from needs assessment through to evaluation. Finally 'teaching' covers such terms as 'implementing' and good teaching is more about facilitating learning than it is about lecturing!

Should the TL teach in isolation or should the teaching be integrated with that offered by class teachers? I believe that TLs must teach in collaborative mode. There is a body of evidence that demonstrates that typically skill teaching out of context is unhelpful. Likewise the TL must teach wearing the TL rather than the classroom teacher hat. To do otherwise illustrates that the school has employed a part time TL and a part time classroom teacher rather than a full time TL. That is to say there is a distinction to be made between classroom teacher teaching and TL teaching.

A distinction also needs to be made between CPT and resource based inquiry (RBI). RBI may be employed by the classroom teacher with or without the direct involvement of the TL and other special teachers. On the other hand CPT is an instructional model whereby the TL and classroom teacher become equal partners in the instructional process. The partners share the responsibility for the planning, implementation and evaluation of teaching and learning programs. The partners will employ RBI approaches wherever suitable to maximise the input by the TL, the use of a wide range of learning resources, and the application of information skills and strategies (Henri 1992).

From what I have covered so far it ought to be clear that: CPT should not be regarded as a set of steps (a set program). Equal responsibility refers to the relationship between the TL and classroom teacher and not to questions of student numbers or teaching time. Teaching should not be equated with standing in front of a class but rather to the planning and implementation of the instructional process (which may include standing in front of a class). CPT does not lock the TL into teaching in the 'library', it can occur anywhere. The TL's involvement in CPT is not an excuse for the TL to teach anything but rather that teaching should reflect the TLs specialist skills. If CPT is to evolve it may mean that some Classroom teachers have to change the way they teach. This is not of itself a reason to reject CPT. Teacher isolation and lack of teacher collaboration are hallmarks of ineffective instructional practice and need to be changed (Fullan 1993). (In other words, classroom teachers must practice the key competencies not just teach them!) If TL time is being reduced it is possible that this reflects their marginality to the instructional process. CPT provides a path back. Yes, TLs need to be involved in technological and administrative tasks. Clearly CPT cannot take up all the week, but priorities need to be set too.

CPT provides a window of opportunity for TLs to be more than special librarians. Through CPT the TL can justify his/her employment as a teacher. CPT is not a set program but rather it is a way of looking at teaching and learning that involves the TL in collaborative practice (Henri 1993). The role that the CPT partners play at any one time will vary. At times the partnership will entail little more than an exchange of ideas, at other times the input from both partners will be very detailed and time consuming and will result in a fully integrated unit of work (Henri 1992). Where CPT is embedded in school culture one would expect to see the TL involved in planning, implementing and evaluating student learning. Furthermore one would expect to find the TL assessing and reporting on student learning.

In 1985 when Ken Haycock spoke about CPT many TLs and classroom teachers argued against its wide spread adoption on the basis that collaboration among teachers was an unnatural practice. In fact in advocating CPT TLs placed themselves at the cutting edge of educational thinking. At that time it was likely that charismatic TLs were more successful at making converts. The world has however changed significantly since 1985. One of the significant changes has been an awakening with respect to effective schooling. High on the list of hallmarks of an effective school is the desirability of collaborative practice. Classroom teachers should be well aware of this and should therefore be more open to the value of partnership with the TL. Another major change is the proliferation of information technology and the networking of that technology. This is powerfully evidenced through the advent of the Net and the WWW. This revolution has killed forever the idea that 'teacher knows best'. The place of process in the curriculum can no longer be denied. As classroom teachers pay more attention to process notions, such as information literacy, they will increasingly value the instructional role of the TL. Likewise as classroom teachers spend more time learning with their students they will value the input of the TL.

Much of what has been paraded as CPT may have simply been bad practice dressed up in a rich concept. We should be clear about what CPT is not as we should know what it is. (This may reflect that many 'CPT' practitioners were not qualified TLs but rather classroom teachers in charge of 'library services', and reminds us of the need for formal qualifications.) Lets not throw out the baby with the bath water or we may be hard pressed to justify the retention of the T in TL.

REFERENCES

Fullan, M. (1993). *Change forces.* London: Falmer.

Haycock, C. (1988). Cooperative program planning - a model that works. *Emergency Librarian.* 12 (1): 29-38.

Haycock, K. (1985). Strengthening the foundations for teacher librarianship. *School Library Media Quarterly.* 13 (2): 102-109.

Haycock, K. (1990). *The school library program in the curriculum.* Englewood, Col.: Libraries Unlimited: 20-21.

Henri, J. (1992). 'Cooperative planning and team teaching: a conceptual framework.' In Henri, J. (ed.). *Collaborative teaching and learning.* Wagga Wagga, N.S.W.: Centre for Information Studies: 5-20.

Henri, J. (1993). Teacher librarians and the service ethic. *Teacher & Librarian.* 113: 1-4.

Keane, M. (1996). 'The Haycock era - a time for review?' In *Beyond the horizon. Conference proceedings of the 14 biennial conference of the ASLA.* Perth: ASLA: 151-155.

Mobley, V. (1994). The teacher librarian as instructional consultant. *Access* 8 (1): 28-30.

Nimon, M. (1996). Teacher librarians - new directions? *Access* 10 (1): 9-11.

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THE SIX HABITS OF HIGHLY SUCCESSFUL COLLABORATIVE TEACHER LIBRARIANS: A NEW ATTITUDE TO ACCOMPLISH CPPT IN THE 21ST CENTURY

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Not long ago I had the pleasure of listening to Pat Williams, the manager and one-time coach of a very successful basketball team called the Orlando Magic. This motivational speaker is also the father and adoptive father of 16 children. I just knew that this man would have some important life lessons for all. But half way into his address of the 'Five Secrets of Success', I realized that many of these factors applied to our working world as teacher librarians and our ability to successfully collaborate with colleagues. Because Cooperative Program Planning and Teaching is the primary vehicle through which a strong school library program should be implemented, how we accomplish this pivotal component and the attitude we bring to this planning is absolutely critical. So with some liberties taken to the original number in Mr. Williams' formula for success, and a nod to Stephen Covey and his book, *The Seven Habits of Highly Effective People*, I would like to offer these 6 practices as the possible keys to achieving greater success with Cooperative Program Planning and Teaching.

THE SIX HABITS

#1 Think tomorrow:

Even though we are constantly faced with severe financial restraints in Education and often confusion about the role that teacher librarians can and should play, we need to move forward with our library program. Don't dwell on concerns and problems. 'Get going' with the resources you have, and always put working with teachers and students at the forefront of everything you do.

If we are to be effective teaching partners, we need to view today as an investment for tomorrow. If our efforts at planning with teachers to implement curriculum have met with less success that we had hoped, learn from those experiences and move on. Our past endeavours should become a spring board to further ventures in this area, not a hammock. So often colleagues in this field get mired down in worry and regrets about lack of time or the failure of teachers to take them seriously as planners of educational activities. This kind of worry is counter productive and can further threaten our success. 'You can't grind grain with water that has already gone down the drain.'

The point is to 'get over it'! The secret of success is how we handle today, for it unlocks how we will handle the future. Ideas for consideration:

- Look for allies and potential allies to work with.
- Share and celebrate your successes and successful units with others in the school and in the field.
- Focus on finding ways to implement the LIBRARY PROGRAM and make TECHNOLOGY part of that program.
- Stress the idea of teachers helping teachers teach.

#2 Free up your imagination:

There is no telling where you can go or what you can accomplish if you avoid the mind-sets that are common in educational structures today. We need to let loose our creativity and think 'no lids' in both approaching teachers and designing units with them.

Ideally the teacher librarian should come to the partnership with competency and experience as a teacher and with specialized training in learning resources and their use in instruction. We need to find creative ways of letting the world of the school know this and come to value these skills. Imaginative program advocacy is the key!

It is also important to keep in mind that in most instances, it is the teacher librarian who initiates this partnership and it's the personality of the teacher librarian which colours the success of Cooperative Program Planning. This requires us to become very inventive in approaching staff and planning with them. Ideas for consideration:

- Don't overlook the obvious! Be direct. Approach teachers and directly offer to plan or be involved in designing and teaching a unit.
- Develop a sense of timing and act strategically. When the direct approach fails, try indirect. Offer to introduce resources to students that would complement a theme being studied in the classroom or to plan a small research component that might complement the theme.
- Be prepared to present suggestions in such a way that the teachers might be intrigued by the help you offer.
- Integrate technology in the design and teaching of the unit and make sincere attempts to increase your skills in this area.
- Be a risk taker. Try new programs, new resources before any one else does at the school level and experiment with creative ways to deliver instruction.

#3 Have a passion for what you do and convey that passion:
Develop a Mark Twain spirit - 'I was born excited!'

Love what you are doing, because you can't accomplish quality without it. Develop a positive attitude about working with teachers and students and this attitude will help other staff members buy into the process. Forget excuses, like 'I have no help, no money, no time, an uncooperative staff'. These can become self-fulfilling. Nurture the teaching partnership, because it is critical to a fully integrated library program. Ideas for consideration:

- Make resources readily available and offer assistance in the use of them.
- Create an awareness of instructional materials. Advertise special resources and how they can be used in specific units (put these in a data bank or bibliography).
- Make your services readily available.
- Learn how to use new and exciting electronic resources and then share this knowledge.
- Become the 'resident expert', not just in resources, but in the knowledge and delivery of research strategies.

#4 'Hang in there'- Persevere:
Teacher librarians, as a rule are born with an extra dose of TENACITY and its a good thing, because we need this talent. If teachers don't know about CPPT or understand the services you can provide, they can't be expected to seek them out (even though you have already outlined them time and time again). Ideas for consideration:

- Be proactive in convincing administration and staff for the need of a research process that can best be delivered through the planning of teaching partners.
- Stress the importance of skills for 'Information Literacy'. Provide information to your staff about this topic. Look at information problem solving approaches like the BIGSIX. There are many fine examples of such strategies. Find one that you or your school district likes and build your program around it.
- Develop an action plan, using an exciting marketing plan with a new slogan, brochure, etc., to entice your staff, always stressing the teaching component of your job and your willingness to an active partner in the learning process.
- Pay attention to the details in the design and delivery of units. It can often make the difference in performance and success of students.

#5 Make the planning process and the unit itself fun!
If this sounds trite, think again. Fun creates enjoyment, enjoyment leads to participation, participation results in awareness, awareness leads to knowledge, knowledge leads to insight and it all stared with fun. Believe or not, keeping a sense of humour and creating fun experiences is an important element of efficiency. Ideas for consideration:

- Put some 'zest' into planning with your colleagues. Try a power breakfast for your planning team.
- Think COOPERATIVELY! The word suggests a task accomplished with another, in a collegial fashion.

- Be flexible in the planning, the timing and the designing and teaching of units.

#6 Be prepared; Be professional:
Although merriment and fun should be part of your game plan, you can still set a tone of proficiency as a resource specialist. To do that and to be part of a teacher's program planning, we need to be well prepared; prepared to take action when the opportunity presents itself. Ideas for consideration:

- Set a tone that this is a teaching library with carefully selected resources to benefit both staff and students.
- State your mission or priority clearly and often. If you don't have one develop one or use one similar to the American document, *Information Power*: 'to ensure that staff and students are efficient and effective users of information and ideas'.
- Use your connections to network beyond the walls of your library for broader access to resources that will help your colleagues.
- Add to your professional collection to strengthen the bond with your teaching partners.
- Get involved in the evaluation of students during the unit, particularly assessing the research process.

But be a prepared professional that PLANS..., with teachers, with students, with administrators!

If we want teachers, principals and students to see the library as a laboratory for ideas and processes; if we want an effective library program that will make a difference to how children will use information; if we want a relationship between the materials on the shelves and the students in their studies, then planning must take place!!

CONCLUDING THOUGHTS

The question for the next millennium is not the value of CPPT, but rather how to revise, revitalize and renew our efforts in this practise. Creating the right climate for successful COOPERATIVE PROGRAM PLANNING AND TEACHING can provide a strong foundation for its survival and can help it to flourish.

Greater demands on our time, threats of cutbacks, and burnout are serious hazards in our profession, but an active program of instruction and service that utilizes CPPT, is critical to our profession and its credibility.

However, to be successful collaborators in the 21st century, a time that will pose both daunting challenges and exciting opportunities, we need to develop an entrepreneurial strategy that will maximize and strengthen our outlook and attitude and perhaps change our perspective on how we can best accomplish our vision.

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HIGH STAKES: TECHNOLOGY AND COLLABORATIVE TEACHING

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Cooperative planning and teaching is often a high stakes endeavour. As I have argued in an earlier paper (Oberg 1990), participation in any activity has its price, and participation in collaborative teaching is expensive for teachers. Involving technology increases the price for many teachers. Collaborative work is a high stakes endeavour for teacher librarians as well. In advocating collaborative approaches, teacher librarians are often challenging the norms of teacher privacy and self-reliance that are still part of the culture of many schools. In some instances, teacher librarians who have not been successful in collaborative work have been re-assigned to classroom work or they and the library program have been marginalized within the school. The influx of new technologies into the school presents another risk of marginalization for the teacher librarian and the library program.

In addition to the inherent risks for teachers and teacher librarians of collaborative work involving technology, there are increasing pressures on them from others, within the school and beyond. Principals and parents are expecting that students become technologically 'literate' and messages from the world of business and the media are reinforcing this expectation constantly. Teachers are being expected to develop the skills needed to incorporate technology into their teaching. Teacher librarians are being expected to have technological expertise, and to share that expertise with teachers as well as with students. Teacher librarians need to stay current in the area of technology, and although many schools seem to be willing to invest in the technology, they do not seem to be quite as willing to invest in teacher librarian time and in teacher librarian learning.

For teacher librarians, the changing technology has made resourcing the curriculum a much harder task. It is possible to put together a range of books and magazines from a library collection for a teacher and/or class in a relatively short time. Incorporating electronic resources takes longer, and not just because the resources are less familiar to us. It takes more time to identify worthwhile sites on the Internet than to find the same number of worthwhile print items on the library shelves. The cost of electronic resources means that it is harder for teacher librarians to respond to teachers' and students' emerging information needs. The selection tools for electronic resources are not as well developed as those for print resources. Ironically, the incorporation of electronic resources means the need for more time, not less, for collection development and for instructional planning, and in a time when the expectation is that resources can be at your finger tips with a keystroke.

Managing student access to work stations adds new demands to teacher librarians' work because increasingly students are using the technology not only in the information retrieval stage but also in the creating or producing stage of their research work. The access to limited computer work stations was simpler to manage when most of the students' computer work was done to locate resources. Now, as more students turn to multimedia production to share what they have learned through the research process, they need access to computers for the majority of the time allotted to the research project. The demand for access increases at a faster rate than the funds to provide that access.

In the incorporation of technology and in collaborative work, there is potential for high payoffs in student learning and in teacher effectiveness (including enhanced parental and public perceptions of student learning and teacher effectiveness). However, there are very high nonmonetary costs that teachers must pay in order to gain the benefits of these or any other changes in educational practice. If teacher librarians want to provide a leadership role in integrating technology into the instructional program of the school through collaborative work, they need to understand and to take into consideration these costs.

The cost of change to teachers, whether it be collaborative teaching or the integration of technology into teaching, can be understood in terms of social price (Fine 1981), which involves costs of time, effort, lifestyle, and psyche.

Time and effort are real costs of collaborative teaching, especially in the initial stages. Teachers are usually very pressed for time, and time is a resource that cannot be readily increased. Teacher effort is a cost for putting into practice unfamiliar teaching strategies such as cooperative planning and it is a cost for learning how to use new resources. Teachers pay with time in order to use the library and its resources in their teaching. They wait to get the resources and services they need because they share the library and the technology with others; it takes time to use library resources and services including planning with the teacher librarian; there can be delays in getting resources because of hardware failure and connectivity problems and delays in getting access to facilities that are heavily booked.

Lifestyle is another aspect of the social price to teachers. Collaborative work means negotiating with another to find time to work together, and it inevitably means compromises for those involved throughout the planning, teaching, and evaluating. Lifestyle price is closely related to the fourth aspect of social price, that of psychic costs. The teacher may face costs in terms of self-esteem and freedom from risk. The teacher may feel that the teacher librarian is the expert in collaborative work or in technology use and that the teacher will be cast in an inferior role. With technology, comes the very real likelihood also that the students will be the experts. If teachers feel uncertain about how they can use the technology or if they are unsure about the benefits to their students, many will avoid it.

Managing the nonmonetary costs of an innovation is an important aspect of implementing it. Teacher librarians need to have a clear understanding of the teachers' perception of what the innovation costs them. These costs may be subtle but crucial barriers to involvement. Because of the shortage of time in educational settings and the practicality ethic of educators, projects are sometimes launched before those involved have developed a good understanding of what is involved in the change. Teacher librarians will find the process outlined in the practitioners' handbook, *Implementing Change* (Driscoll 1989), helpful in understanding their work with teachers and in developing effective strategies for implementing new programs or for making changes in established programs. The kind of analytical work suggested below, that is, thinking about the nature of the new practice, the culture of the school where the practice is being introduced, and the individual needs of the teachers involved, is critical for all facilitators of change in instructional practice.

In finding ways to reduce the costs to teachers of any new practice, teacher librarians need to develop knowledge about three aspects of the particular school in which the new practice is to be implemented: (1) the current teaching practices of the school; (2) the 'culture' of the school; and (3) the teachers' skills, knowledge, and attitudes in relation to the new practice. Together, these three areas of consideration should help teacher librarians to assess the costs to teachers of collaborative work involving technology and to develop implementation strategies that take those costs into consideration.

Analyzing the current teaching practices of the school will assist in determining the extent of the change involved. One way of doing this is to list the different components of cooperatively planning and teaching with technology, and to identify which components will be new or constitute a change in practice for teachers. This should assist teacher librarians in assessing the number and magnitude of the changes involved in implementing the new practice. A new practice may represent smaller changes in one school than in another. For example, where library research projects are routinely carried out in a collaborative way, using CDROM or Internet resources may be seen simply as an improvement of practice. Where lecture and textbook are the regular teaching strategies used by teachers in classrooms, working collaboratively and using electronic resources may represent challenges to traditions such as teacher autonomy and the classroom teacher's control of the learning environment. Comparing current teaching practices to new teaching practices clarifies for teacher librarians the costs of the change to teachers in their school and provides some guidance for setting attainable objectives.

Teaching practices are one part of the social organization of schools, one aspect of what is increasingly being referred to as the 'culture' of the school. There is mounting evidence that the conditions under which teachers work have more to do with success in innovation than do the particular characteristics of the individual teachers involved (Fullan 1991). In schools that are more successful in making changes, teachers work together to improve their students' learning and they are oriented toward the whole school rather than towards their own classrooms (LaRocque 1986). The way that teachers work in effective schools is characterized by shared goals, teacher collaboration, teacher learning, teacher certainty, and teacher commitment (Rosenholtz 1989). These factors are interrelated and mutually reinforcing. Shared goals are developed through teacher collaboration; if teachers are to agree on their practices, they must work together to understand and select those practices. Teacher collaboration allows teachers to learn from each other, and that learning helps teachers to evaluate and become more certain about their own practices. Teacher certainty helps to develop teacher commitment; teachers are willing to invest more time and energy into endeavours they know have a high chance of success. The culture of effective schools supports teachers' continuous improvement and facilitates behaviours that would be impossibly risky in other schools. Teacher librarians will gain much insight into the culture of their school by observing school practices and by engaging in conversation with their colleagues, with the Rosenholtz framework in mind. An excellent place to start these conversations would be with the principal and with several of the opinion-leaders in the school. It is also important to recognize that, by engaging in such interaction, teacher librarians may be initiating some change in the culture of their schools and may be encouraging others to help create a stronger culture of change. Collaborative work facilitates teachers' professional growth and changes the very nature of teaching and learning in the school.

In addition to assessing readiness for change in terms of the teaching practices of the school that relate to the innovation and in terms of the overall culture of the school, teacher librarians need to consider the needs of the individual teachers in the school. Even in effective schools, teachers do not all pay the same costs in making changes in their practice. The Concerns-Based Adoption Model provides an analysis tool for assessing where teachers are in relation to an innovation, in terms of their concerns about and use of the innovation (Hall & Loucks 1982). This model recognizes that teachers experience changes in their feelings about an innovation as well as changes in their skills in using the innovation. The teacher librarian, informally but systematically, can discuss with the teachers how they feel about collaborative work and how they are utilizing technology in their teaching. Levels of use can also be ascertained by observation and by analysis of planning documents such as the teacher librarian's plan book and the year plans of the school and of individual teachers.

This assessment of the cost to teachers of an innovation, through three kinds of analysis, should help to make clear to teacher librarians the complexity of the process involved. 'The group, the individual, and the nature of the change are all important factors' (Stiegelbauer 1982:35) in implementation. Building knowledge about the organization in which the innovation is to be implemented will help teacher librarians be more successful makers of change. Without this careful analysis, teacher librarians are likely to find the innovation effort floundering, even after an ambitious and enthusiastic start. This may mean a retreat from innovation efforts and a return to traditional service (Miller & Spanjer 1985). The success of an educational change effort is strongly influenced by the way the implementation process is handled and the school's previous implementation history. The implementation process must be guided by a recognition of the critical importance of teachers in the change process and a sensitivity to where they are in relation to the innovation. The implementation process can be designed to establish conditions within the school that facilitate continuing change and that enhance a culture of continuous improvement. Failed change has and continues to cause resistance to innovation in education.

Taking the time to develop a thorough understanding of the school within which changes are to be implemented has great potential benefit over time. Thinking carefully about the nature of the changes that collaborative work and the use of technology requires, about the culture of the school, and about the teachers' needs in relation to collaborative work and technology will help teacher librarians in developing appropriate plans for implementation and in implementing those plans effectively. It will assist them in deciding where, with whom, and at what pace to proceed in incorporating technology and in encouraging collaborative teaching. It will also help teacher librarians to participate in building their schools' capacity for change.

REFERENCES

Driscoll, D. (ed.) (1989). *Implementing change: A cooperative approach to initiating, implementing and sustaining library resource centre programs.* Vancouver, BC: British Columbia Teacher-Librarians' Association.

Fine, S. H. (1981). 'Social price.' In J. H. Donnelly & W. R. George (eds.), *Marketing of services.* Chicago: American Marketing Association.

Fullan, M. (1991). *The new meaning of educational change.* Toronto: OISE Press.

Hall, G. E. & Loucks, S. F. (1982). 'Bridging the gap: Policy research rooted in practice.' In M. W. McLaughlin & A. Lieberman (eds.), *Policy making in education.* Chicago: University of Chicago Press.

LaRocque, L. (1986). 'Teacher ethos: School-oriented and classroom-oriented.' Unpublished manuscript, Burnaby, BC.: Simon Fraser University

Miller, R. & Spanjer, A. (1985). 'The library media specialist as change maker: Implications from research.' In S. Aaron & P. Scales (eds.), *School library media annual* (Vol. 3: 323-335). Littleton, CO: Libraries Unlimited.

Oberg, D. (1990). Cooperative planning and teaching -- At what cost? *School Libraries in Canada,* 7-10, 18.

Rosenholtz, S. J. (1989). *Teachers' workplace: The social organization of schools.* New York: Longman.

Stiegelbauer, S. M. (1982). 'Acculturation and the change process: An exploratory formulation from an applied model for research and facilitation.' Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY. (ERIC DRS No. ED 222 514)

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TOPIC L

MOOVING AROUND THE NET:

THE EDUCATIONAL POTENTIAL OF MOOS

MOOVING AROUND THE NET: THE EDUCATIONAL POTENTIAL OF MOOS - A POINT OF VIEW

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Boom: you appear with a crash and role to your feet in a cloud of blue smoke. The sign reads 'Welcome'.

Some Universities banned their use, a young student became so obsessed it lead to him loosing his life. These are only games, games of words, living breathing words and human interaction. They are the MUD, MOO and MUSE.

Everyone learns through playing. I got into computers because I liked games. They not only taught me hand eye coordination (which so far has not got me a job, but has prevented me falling down the particularly steep stairs at the back of my office) but a range of skills.

Well OK, maybe I am trying to justify spending hundreds of hours staring at a screen. But from games I learnt how to copy software (a skill I no longer use), solve puzzles, and find the determination to keep trying when all else looked hopeless. The only games that really taxed my mind (and not my trigger finger) were the infocom adventure games (Zork, etc.), these were text based worlds where you have to solve puzzles and use your imagination.

THE MULTI USER SIMULATED ENVIRONMENTS: MUSE

MUD, MOO and MUSE are ostensibly the same thing so from here on I will refer to them as MOO. In the fashion of Zork and other classic adventure games, MOOs create an environment which is text based and has many areas through which the player can move. The significant difference is that other people can move through them at the same time. Everything is words, everything is text on a screen and the text is often so vivid you feel as if you are there. It takes a little getting used to, when I first arrived I was met by a set of encyclopedias which fell from the sky, opening to a page where a young man climbed out. These descriptions are created by all those involved and everyone you meet is real. The only barriers to what you can do are in the words you can use. If you want a room where the lamps hang upwards and the fireplace is actually flaming ice, you just create it with words. Living words, words which have consequences.

There are now many hundreds of these sites around the world and some are specifically directed toward education. Mostly they are just places for Internetters to go and meet (like the hot tub at a site called ***Lambda Moo*** **<telnet://lamda.parc.xerox.com:8888>**) however, some have been turned into virtual schools or Universities, others are meeting places for teachers or centres for students. One such center is *MicroMuse*.

The ***MicroMuse*** **<telnet://musenet.musenet.org:23/>** system features explorations, adventures, and puzzles with a mix of social, cultural, recreational, and educational content. For example, the MicroMuse Science Center offers an Exploratorium and Mathematica Exhibit complete with interactive exhibits. One of the Math Exhibits is 'Professor Griffin's Logic Quest', based on Raymond Smullyan's classical puzzles about knights and knaves which requires skilful clear thinking to solve. The Narnia Adventure embeds puzzles within a familiar children's classic. Keeping within the spirit of cooperation and collaboration, it takes a party of four to solve the initial puzzle in Narnia. Students must coordinate themselves to do tasks at the same time while in different locations.

Barry Kort, one of the 'Janitors' of *MicroMuse*, maintains the virtual school and has been involved in the development of many of the exhibits and has watched how students use and learn from this environment:

> For younger participants, text-based virtual realities foster literacy skills: reading, writing, and composition, and technical skills such as keyboarding and spelling. For adolescent students, social interaction skills, interpersonal skills, and personality development emerge as primary activities. College students who are not computer science majors enjoy the opportunity to gain some computer literacy and try their hand at creating their own

contributions to the cyberspace worlds, usually with the helpful guidance of friendly users with more experience.

In these environments students can build their own places, restricted only by their imagination. Students can create their own room, collect objects and store them in this room. They do this by attaching text to an object. One clever student built room in the back pocket of his jeans. While many may find this Alice in Wonderland a little weird remember if you can write it, it can exist. A 9-year old contributor returned from his family's summer vacation and created a working model of Yellowstone National Park, complete with erupting geysers and a wandering moose.

Deaf and handicapped students find opportunities for unimpaired interactions within the MOOs. These virtual worlds make no distinction on normal interaction. There are quite a number of handicapped students who join in the MOO community, contributing and mixing equally with all participants.

MOOs are appearing based around specific subject areas. Places like ***Cyberspace Writing Center Consultation Project*** **<telnet://daedalus.com:7777/>**, where school students can present their work and discuss it with University students or professional writers. They can hand a copy of their piece to each other and it appears on the other computer.

Using a foreign language through a MOO is a very quick way if testing ones French. ***schMOOze*** is a place where people studying English as a second or foreign language could practice English while sharing ideas and experiences with other learners and practisers of English. Students have opportunities for one-on-one and group conversations as well as access to language games, an on-line dictionary. There are now a large number of these learn a language MOOs including:

Le MOO Francais, French language MOO:	**<telnet logos.daedalus.com 8888>**
'LittleItaly', Italian language MOO:	**<telnet ipo.tesi.dsi.unimi.it 4444>**
MorgenGrauen LPmud, German language MUD:	**<telnet mud.uni-muenster.de:4711>**
UNItopia, German language MUD:	**<telnet infosgo.rus.uni-stuttgart.de:3333>**
MOOsaico, Portuguese language MOO:	**<telnet moo.di.uminho.pt 7777>**
SvenskMud, Swedish language MUD:	**<telnet svmud.lysator.liu.se 2043>**

Diversity University **<telnet://moo.du.org:8888>** is a MOO of a University campus, complete with ivy on the physics building wall. When I entered a person greeted me, when I asked questions about a course he said wait; 20 seconds later I had the course coordinator with me. Another minute after that I was sitting in a class with the coordinator showing me the materials you get each lesson. These are real classes students can graduate from *Diversity University*, and the lectures can work thousands of kilometres apart.

MOOs are about words, whether those are words of a discussion or words of description or words of construction. Much of what goes on in a MOO is play, doing interaction and mucking about, but all done with only words. People come away with the sense that there is a strange but strong community of people who attend these MOOs. Not everyone you come across is worth talking to or paying attention to, however there are interesting lessons about human interaction which can be learned playing these games of communication. Perhaps, however, I would not be in computers if I had had these games to go home to.

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MOOING IN A FOREIGN LANGUAGE: HOW, WHY AND WHO?

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> (T)he compelling new Net applications help us sell, entertain, inform, educate, inspire, communicate, govern, chat, collaborate and even make meaning out of life.
>
> (John Doerr in *US News & World Report*, 27 May 96: 62)

MOO FOR FOREIGN LANGUAGE LEARNING

A MOO is a telnet-accessible text-based virtual environment in which synchronous communication takes place between 'players' logged on at the same time. The acronym stands for 'Multi-user domain, Object-Oriented.' MOO-space is created by players who use MOO commands, normally in English, to write text that describes 'objects' such as characters, rooms, and things. The players may interact with and manipulate the objects, or they may simply 'talk' with each other in the created spaces. Simple commands allow players to discover who else is currently logged on, to name and describe themselves, to communicate with other players, and to write text conveying non-linguistic cues such as emotions, physical appearance and actions.

Currently three well-established MOOs exist which were created with the language learner in mind:

1. *schMOOze University*, for learners of English as a second or foreign language
2. *MundoHispano*, for learners of Spanish
3. *MOOfrancias*, for learners of French.

MOOs and MUDs (the latter more likely to be game-playing or role-playing environments) exist in numerous other languages, but they do not cater specifically to the language learner.

Visiting a foreign language MOO is like a virtual immersion experience. Learners find that the native speakers may or may not be helpful, just as in real life, and that the latter expect the former to communicate in the target language. Learners report that on a MOO there is just a bit more time to compose thoughts than there is when speaking, but not much more, leaving them no time to do any mental translating. Even novice level users report coming away from a MOO experience thinking in the target language.

TIPS FOR USING FOREIGN LANGUAGE LEARNING MOOS

The ability to chat with native speakers appears to be one of the features that most motivates students to return again and again. Each time they return, they reinforce what they've learned and are exposed to more language. When relationships are formed and personal spaces are built, users have intrinsic reasons for using the foreign language. Teachers do well to capitalize on this fact in order to make the most use of this language learning tool.

Much traditional pedagogy does not work well in MOO. Teachers cannot be everywhere in the MOO and so cannot control what happens there. Teachers are not even needed in the MOO, except to gain the same kind of experience the learners have in order to best respond to their needs. MOO is best seen as a tool for making static information become alive and personalized for the learner.

If students have been studying the culture of a certain country, they can go to the MOO and seek out native speakers from that country and ask them any number of questions. If they have been reading some literary work, they can create spaces that reflect their understanding of the reading they've done. As an example, one class that had read Dante's *Inferno* built level after level of hell at ***Diversity University*** **<telnet://moo.du.org:8888>**.

To get from one level to another, one would keep typing the word 'down.' Although their descriptions were in English, this could have been done in Italian as well.

Students can create objects that allow them to practice command forms and prepositions. Students shy about talking can simply 'lurk' in ongoing conversations (the speakers know they're there), or can wander all over the MOO reading room descriptions and handling objects they find in those rooms. They can run programs that were designed with the learner in mind, and they can leave MOOmail (like email) for their MOO friends - and all of this in the target language.

The types of activities that can be created for a MOO are limited only by the imaginations of the teachers and learners. One can hardly imagine a classroom or homework activity that cannot have a parallel MOO activity designed around it. This writer's experience with using MOO in foreign language classes has demonstrated that it is the ability to connect with native speakers and other language learners that is the most appealing aspect of MOO, so teachers would be wise to include interaction with other users in their plans as often as possible.

Teachers need to consider how motivating it is that nobody can tell the language learner what to think about while in a MOO. Conversation is free-flowing and authentic. The writing in MOO is about as close as you can come to what Ann Berthoff described as 'continuous and active composing' (*The Making of Meaning* 1981), but in a social context. It is thinking, in writing and in the target language, but in response to another human being. The greatest appeal of MOO is the endless variety of human response and the social nature of the learning experiences.

In no other way can teachers provide learners with language more authentic without sending them to the countries of the target language. At relatively little expense, and 24 hours a day, learners can be in contact with native speakers from a tremendous variety of cultural and linguistic backgrounds. They speak less in a stilted 'Spanish 101' variety and begin using high level authentic phrases, even if embedded in lower level language. As Steven Krashen pointed out at a recent presentation (Syracuse 1996), native speech is 'perfect.' It's better than that found in any textbook. While textbooks do the important job of providing lists of vocabulary and outlines of grammar, MOO sessions help learners to internalize language structure within the broader contexts of dialogue and culture.

MOO IS NOT FOR EVERYONE

There are pitfalls to using MOO for language learning. Teachers more comfortable with what Paolo Freire calls the 'banking method' - whereby teachers deposit the 'currency' of knowledge into the 'banks' of their students' heads - will not be comfortable with the fact that it is the native speakers who do the teaching on MOO and learners who are in control of what they learn. Some students will initially be uncomfortable with this autonomy, particularly those who come from rigidly hierarchical educational systems where they are accustomed to being powerless.

MOO is, obviously, technology-based. Those who have trouble with using computers need good training and plenty of 'hand-holding' until they feel comfortable with the technology, the new power dynamics, the foreign language, and the foreign culture. They cannot be expected to navigate all these troublesome waters unaccompanied. Teachers need to provide plenty of in-class 'debriefing' time during which complaints and problems can be aired - in the target language, if possible. Co-learners are often the best resource for solutions to problems encountered in MOO experiences, but it is a good teacher who must have the insight to set up these sessions and facilitate peer support.

MOOING IN A FOREIGN LANGUAGE: WHO WANTS IT?

People who grow up with computers adapt to all sorts of Net-based teaching because they are already familiar with the hardware and much of the software. In this respect, young students are ahead of most teachers, so it would be well to utilize them as a resource for using computers while guiding them to the applications that most enhance their language learning experience. Those who meet the students out there on the Net will be able to teach them. Those who do not will, in many ways, be left behind.

Humanists will likely be comfortable with MOO, behaviorists will probably not. Teachers who enjoy empowering others will enjoy using MOO in their teaching. They will take delight in hearing a room full of clacking keyboards erupt into laughter, even if they missed the joke. They will be content to creatively utilize any materials students bring to class from their MOO conversations, even if at first it feels uncomfortable, because they know that real language is the raw material of real language learning and that students invariably appreciate authenticity.

People who can learn the basics of computer/Internet technology will find MOO to be no more complex than learning how to manage a few irregular verbs. MOO is decidedly not for every teacher, but every teacher must consider that there is quite a variety of applications for use on the Internet that also avail students of access to authentic language. Teachers who still feel afraid of technology should either take a number of basic classes, or resign themselves to using increasingly outdated methods. Technology will never replace good, creative, open-minded teachers, but it will make the technophobic obsolete.

Some students and teachers have learning or teaching styles that rely heavily on audio or graphical input. A text-based MOO may be problematic for such people. But there are MOO-like environments being built which address these different styles. Soon they will become as commonplace as email is now.

One such application is Time Warner's two-dimensional interactive environment, *The Palace*. Users can create room after room, chat with others logged on, and even include a photograph of themselves for others to see. Conversation appears in balloons near the speaker's 'avatar,' a little icon that represents the user. Because of its relative simplicity, there is no waiting for files to download when moving from one room to another.

Another such environment is Intel's *Moondo*. This provides users with a three-dimensional environment that can be navigated using a personal 'avatar' which is moved around by mouse action. One can virtually walk all around a *Moondo* room, seeing all sides of the room and its contents, including others' avatars. There is a small window for communication via text and another that allows for audio communication. This is a compelling environment, with its disadvantages being the sophistication of the hardware required and the time needed to move from room to room.

These are but two of the many Internet applications that address the language learner's need to hear and pronounce the oral language, and to see faces, shapes, colors, and so on. In spite of this, however, it is this writer's opinion that text-based MOO will be around for quite some time. It provides users with nearly complete anonymity (only the MOO owners -- wizards -- can see where they're connected from in most MOOs), which makes it easier for shy users to try unfamiliar linguistic forms. Also, anybody who can use a modem can connect to a MOO, even those with extremely unsophisticated computers. This is an advantage in MOOs where a majority of users are connecting from developing countries. Finally, text allows users full use of their imaginations while focusing them on a written language form that gives them the sensation that they have 'heard' speech.

It is this writer's hope that teachers will be inspired to use MOO not only in the foreign language classroom, but in any class that has access to the Internet. Much research remains to be done on the efficacy of MOO in various classes, but the reports coming in to date give us ample reason to believe that this is one teaching tool worth investigating.

SOME USEFUL MATERIALS

Crawford, Jack. *Renaissance Two: Second Coming of the Printing Press?* **<http://csc.sctboces.org:80/horseheads/jackc.html>**.

Snider, James H. (1996). 'Education Wars.' *The Futurist*, May-June.

Warschauer, Mark. (ed.) *Virtual Connections.* National Foreign Language Resource Center, University of Hawaii at Manoa. **<http://www.lll.hawaii.edu/markw/vircon.html>**.

Warschauer, Mark, Turbee, Lonnie and Roberts, Bruce. *Computer Learning Networks & Student Empowerment.* National Foreign Language Resource Center, University of Hawaii at Manoa. **<http://www.lll.hawaii.edu/nflrc/ResearchNotes.html>**.

Hiemstra, Roger (1994). 'From Behaviorism to Humanism: Incorporating Self-direction in Learning Concepts into the Instructional Design Process.' In H. B. Long & Associates. *New ideas about self-directed learning.* Norman, OK: University of Oklahoma, Oklahoma Research Center for Continuing Professional and Higher Education. **<http://www-distance.syr.edu/human.html>**.

MOO Teacher's Tip Sheet: **<http://www.daedalus.com/net/MOOTIPS.html>**

MundoHispano: **<telnet to: europa.syr.edu 8888>** and
<http://web.syr.edu/~lmturbee/mundo.html>

MOOfrancais: **<telnet to: moo.syr.edu 8888>**

schMOOze University: **<telnet to: schmooze.hunter.cuny.edu 8888>**
<http://schmooze.hunter.cuny.edu:8888>

The Palace: **<http://www.thepalace.com/>**

Moondo: **<http://www.intel.com/iaweb/moondo/index.htm>**.

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MOOVING AROUND THE NET: REAL TO VIRTUAL AND BACK AGAIN

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ABSTRACT

The World-Wide Web (WWW) and multiuser domains such as a MOO, can be effective in tandem with teaching methods such as the theories of constructivism, collaboration and portfolio assessment. Educators with Internet access can readily use the WEB and the MOO to develop computer-supported cooperative work (CSCW) in a virtual environment (VE). The WWW-MOO experience is quite an effective groupware tool for collaborative work over a wide area and this paper seeks to describe the process.

Since May 1994, the Lyceum Project (Eustace, 1995) has used WWW in conjunction with a simple, free-form virtual classroom on Australia's international educational MOO called AussieMOO. The Lyceum Project uses an integrated VE of WWW pages, MOO conferences and an email LISTSERV for course delivery and participation. This paper describes the basic tools in the virtual classroom at AussieMOO and discusses how our teaching methods can involve dialogue and collaborative work across the Internet. In its raw form, an actual MOO session transcript is used to show how a simple collaboratory was created, using split windows with a WWW client, a MOO client and a word processor. The author also examines several VE options and concludes by reflecting on the experience and the problems of earning acceptance when moving from real to virtual and back again.

1. INTRODUCTION

Collaborative peer dialogue, teaching and research processes work in tandem to provide the skills that underscore collaborative learning and research on the Internet. The development of a Virtual Environment (VE) is a continual process of refinement as new technology and pedagogy evolve. Virtual Environments for education (VEE) empower students with a greater control over information storage and manipulation. VE's are extensible and objects can be programmed by ALL users. Collins and Brown (1988) describe how interactive objects favour reflective learning patterns. This new model for learning on the Internet has been the major case study of the Lyceum Project, which examines the meshing of information technology in teaching and learning interactions. Collaboration in dialogue, writing and publishing are the hallmarks of online education techniques.

The Lyceum Project has developed a VE theme called the Virtual Classroom at AussieMOO. This paper examines the need for communicative competence on the Internet and compares some technologies over the Internet. The author reveals the WOW interface and how a collaborative writing task - a conference paper - was discussed, prepared, edited, reviewed and submitted for acceptance using synchronous and asynchronous tools of email, WWW, MOO and a text editor. The essential WOW interface is a split screen of windows using Netscape, MUDDweller or MUDwin (MOO client) and a text editor or spreadsheet. Email was used to organise the Time Window of working at NOON GMT; to exchange messages between MOO conferences and to submit the final paper.

Going beyond the WEB and the MOO is a common theme or thread in my work, which considers the learner or end user position, across a range of factors including the user interface, computer literacy and access to the suitable technology level. This theme is now being applied to the work of teacher librarians in this paper. The first section describes the functional characteristics of the WEB and the MOO and attempts to justify the WEB and the MOO services, using various examples from my recent research.

An evaluation of a MOO session results can be made by the reader, using MOO excerpt III from the Lyceum Project database, with a glance at collaborative work in research The conclusion discusses several perspectives in going from real to virtual and back again.

2. CHARACTERISTICS OF THE WEB AND THE MOO

2.1 What is a MOO?

A MOO is a type of multi-user virtual environment that allows interaction between players and objects in a form that is similar to adventure games (Curtis and Nichols 1993). It is a rich environment, but is limited to a text-based or keyboard interface. The players or characters on a MOO are organised into a hierarchy, based on skill and experience. New players begin as a builder or programmer, before possible promotion to a wizard. Each MOO is controlled by an archwizard. In a programming sense, MOO objects are defined by a series of verbs (procedures) and properties (variables). When the database is first loaded, all the verbs are compiled for faster operation of the MOO. The object-oriented nature of the MOO environment makes it very easy to extend the database of MOO objects. The most common MOO server and core database is called LambdaMOO and was developed by Pavel Curtis to run on a UNIX system. The source code is freely available via ftp at <parcftp.xerox.com>.

2.2 Beyond the WEB and the MOO

Competing technologies such as video conferencing generally require high bandwidth connections and a high performance machine. The MOO is a low bandwidth service and WWW is also available at low bandwidth, using hypertext clients such as lynx. Lynx is an efficient text client for the WWW, especially when most information accessed exists as text.

The availability and variety of client software, provides a scenario for equal opportunity of access to the Internet for users with limited technology levels (Geissinger 1994). This means that a user does not need the latest technology to participate. Many countries still only have email and telnet services, but that would be sufficient for access to text-based WWW and MOO resources. Let us examine some trends which may indicate how knowledge services may be provided, when contemplating going beyond the WEB and the MOO in the library.

2.2.1 Emerging pedagogy

Educators are embracing new teaching pedagogy trends all the time, however here is a list of some trends that may be related to the development of a learning environment and a library enmeshed in Internet technology:

- interactive processes;
- participation;
- student control of learning;
- distance independent learning;
- communication in real time;
- criterion-referenced assessment;
- electronic publishing; and
- fascination by users with text-based systems.

2.2.2 Popularity of text-based virtual reality

The developers of lambdaMOO did not conceive the popularity of their MOO with over 5000 users, but the text-based interaction of the MOO and Internet Relay Chat (IRC) are still gaining in popularity. The interface may not be as slick as those on WWW, but users do tend to value human to human real-time communication.

2.2.3 Electronic publishing

WEB and MOO server management will become popular as users want greater control over the media. Server-side scripts using perl or python languages, help to build software that increases the level of interaction with hyperlinked information using forms and maps. New object-oriented scripting languages such as python can also open up scripting to more entry-level users not interested in the complexities of C or C++ programming.

3. VIRTUAL COMMUNITIES IN EDUCATION

Polin (1993) describes virtual communities known as Multi-User Simulated Environment (MUSE) or Multi-User Object Oriented environment (MOO) and their uses in the classroom as text-based computer 'communities' whose inhabitants are a combination of the real people and constructed objects that people agree to treat as real. Similarly Fanderclai (1995) describes a small community of writing teachers using computers in their classrooms who discovered MediaMOO, a MUD operated at MIT and used by media researchers for real-time discussion and collaboration. In her conclusion, Fanderclai has stated:

> MUDs are places for self-directed learning, learning that blends work and play, that often looks chaotic but that is uniquely effective.
>
> A MUD is not an environment that can be controlled; to use MUDs effectively, educators must replace control with structure. Students need clear goals, and knowledge of the tools and methods they might use to accomplish those goals.
>
> And then they need for us to stand out of the way and let them learn.
>
> Perhaps as MUDs become more accepted in education and we make better uses of their potential as learning environments, we'll even take a few of those lessons about empowering students and staying out of the way of their learning back to our real life classrooms.
>
> And that, it seems to me, might be the most important thing any of us could learn from educational MUDding.
>
> T. L. Fanderclai (1995)

Figure 1: Virtual Communities: Replacing control with Structure

4. THE ART OF THE WRITTEN CONVERSATION

The Internet is defined as the agora or meeting place in which knowledge is not only shared but created and recreated (Anderson, 1994). This provides students with the opportunity to add to the dialogue, develop, apply and link new knowledge to their own learning context. The writing process is a fundamental component of this new agora. In ancient Greece, Plato's famous dialogues recorded many teacher-student interactions and may be regarded as part of the media of their time with the gymnasium or Lyceum as an ancient agora. Educational technology has changed the face of teaching over the centuries with the Internet and hypermedia leading the way beyond the year 2000, but the capacity for use of the dialogue has remained constant in teaching. The ability to add to the dialogue and to publish your writing, empowers the student to develop the art form of the written conversation and to link any knowledge to their own learning context.

5. LYCEUM PROJECT MODEL

The Lyceum Project is a research project at Charles Sturt University which investigates the use of networked interactive technologies in education. This project supports the alternative learner-centred approach in distance education and seeks to build a learning environment based upon computer-supported cooperative work (CSCW) and the constructivist learning theories in education. New concepts in education such as contextualism and constructivism have resulted from other studies in the psychology of learning and behaviourism (Duffy et al. 1993). The Internet is one of the many technology resources which have been contributing to the creation of a constructivist learning environment. Both the teacher and the student participate and interact to an extent where the learning process involves mastery of the skills in using networked communication and information technologies. Such an environment is called the Lyceum Project Model, as shown in Figure 2.

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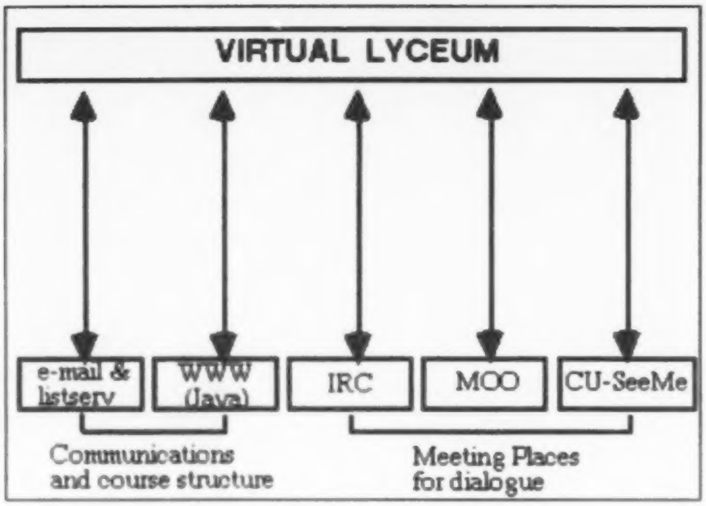
VIRTUAL LYCEUM
e-mail & listserv
WWW (Java)
IRC
MOO
CU-SeeMe
Communications and course structure
Meeting Places for dialogue

Figure 2: Lyceum Project Model: the Cyberspace Virtual Classroom

The development of AussieMOO as the first educational MOO in Australia with the Virtual Classroom (1994), Virtual Library and Experimental Farm (1995) and Virtual Vineyard (1996), have been the main VE resource developments by the Lyceum Project. The maps in figures 3 and 4 show the layout of the Virtual Classrooms at the end of 1995. The relative location of the MOO spaces and their MOO database object numbers are indicated, to help those who often get lost in cyberspace. This is revealed in certain locations with the @map command on AussieMOO. The collaborative teaching and research activities, conferences and tutorials can take place in the Library (#3252) or the Computer Lab1 (#3153), which users can make 'home' using the @sethomecommand.

```
                         #3254         #3249          #3250
                    {Toons}     {Classrooms}    {Cyberbia}
                .------^-------------^--------------^-------.
                |  .------.     :::::::::::   @ *@  @  @    |
       #3256    | / Pub    \    ::Hall of::   * Wooded *    |   #3262
{Available-1} <   \ #730   /    :::Laws::::     @ Lawn *     > {Edgewood}
                |  `------'     :::#3075:::     * #3248 @   |
                |                                @ * @  *   |
       #3271    |  _-_-_-    ::::::::::::::::  ::::::::::::  |   #3263
{Available-3} <   _Spring-   :::Town Square::  ::Library::   > {Available-4}
                |  -#3253-   :::::::#11::::::  :::#3252:::  |
                |     ~                                     |
       #3268    |      ~       ~~~~~~~~~~       ::::::::::  |   #3264
{Available-5} <     Brook~    ~~~Lake~~~~~      ::Museum::   > {Available-6}
                |   #3258 ~~~~~~#3259~~~        :::#3257::  |
                |            ~~~~~~~~~~                     |
                '------v-------------v--------------v-------'
                (Available-7)   (Available-8)  (Available-9)
                    #3270          #3267           #3266

         You are currently in 'Virtual Education Centre' (#3249).
```

Figure 3: Map 1 of the Virtual Classroom space at AussieMOO

```
.---------------.         .----------.-------------.------------.
|   InfoStudy   |         | Hopper's *     The     *  Sunray's  |
|     #198      |         |  Office  *   Virtual   *   Office   |
|               |         |  #1019   | Classroom  |    #242    |
 -* *-----------|---------|----------|   Offices   |------------|
|   Infostud    | Paideia | Paideia  |    #311    |            |
|    Seminar    | Meeting *  Annex   |-----* *-----|    MOO     |
|     Room      |  Room   *  #3079   |     The     | Programmer |
|     #461      |  #235   |          |   Virtual   |  Academy   |
 -* *-----------'-* *-----'----------| Classroom  *    #318    |
  Hallway #460      Hallway  #234   *    #301     *            |
 -* *-----------.-* *----------------*-----* *-----|------------'     .
| Flying Finn's |       TAFE         |             |  .----------------.
|   Classroom   |        Lab         | 'The Quad'  |  |      The       |
|     #785      |       #3205        |    #1569    *--'  Experimental  |
'---------------'--------------------|             *--.      Farm      |
                                     '-------------'  |     #1552      |
                                                 .    '----------------'

   You are currently in 'Paideia Meeting Room' (#235).    Outside #3249
```

Figure 4: Map 2 of the Virtual Classroom space at AussieMOO

Further information about AussieMOO and about MOO resources in general is available at **<http://silo.riv.csu.edu.au/AussieMOO.html>**. You can connect to AussieMOO via telnet at <silo.riv.csu.edu.au using port number 7777> or from the AussieMOO Home page.

6. COMMUNICATIVE COMPETENCE IN CYBERSPACE

In developing the Communicative Model, White has suggested several competencies which lead to communicative action aimed at reaching understanding:

1. Cognitive competence (after Piaget);
2. Speech competence; and
3. Producing grammatically well-formed sentences.

Examination of the communicative model at work on a MOO is worthwhile, where the communicative competencies work within the broader computer competencies required in this virtual social reality. Just as ordinary language competence enables actors to seek understanding in regard to some particular practical situation, MOO players (character actors) are not unlike the actors, who have to coordinate their actions consensually. The MOO has a 'remote' command which can be used as one example of interactive competence capability. One of the definitions of MOO dialogue is provided by Sherman (1995) at Paideia (McAfee 1995) who while MOOing, was once asked by a young child if he was writing a letter:

> Scott replied succinctly, 'No, I'm writing a telephone conversation.'
>
> [Eustace (1995): Lyceum Project MOO Transcript IV]

Communicative competence on the Internet has its supporters and detractors. The dictionary of Smileys by Sanderson (1993) allows users to put more expression into their message and helps to reduce possible ambiguity in reading, similar to emoting on a MOO. Elmer-Dewitt (1994) while supporting our use at Paideia and the Lyceum Project for collaborative dialogue and writing, is at the same time disgusted with the quality of prose on the Internet, which he feels is:

> '... sloppy, meandering, puerile, ungrammatical, poorly spelled, badly structured and at times virtually content free.'
>
> (Elmer-Dewitt 1994)

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Elmer-Dewitt does however acknowledge that the Internet is a place where 'written speech' is the norm and precise prose is out of place. Reid's (1994) Master's thesis about the social power structures of MOOs, considered the ways that non-verbal cues (emoting on a MOO) are textualised.

7. INFORMATION SUPERHIGHWAY: HIGH ROAD OR THE LOW ROAD?

Desktop Videoconferencing as the high road

According to Brownlee and Ingham (1996), desktop videoconferencing systems such as Cu-SeeMe, still have a long way to go before they can be used for a wider section of the learning community. The technology level required raises equity issues, as many users and indeed some countries, do not have the equipment to participate at this time.

Videoconferencing supports two-way video and audio communication so that two or more people at different locations can see and hear each other at the same time. The basic system must have audio-visual equipment (monitor, camera, microphone, and speaker) as well as a means of transmitting information between sites. As the broadband satellite connection is expensive, recent advances in communications technologies have created an interest in compressed video systems, which transmit information via today's Internet or telephone network, greatly reducing the cost of videoconferencing. This piece of equipment is called a codec (short for coder-decoder). The codec digitises and compresses the analog video signal and has to decode the received transmission. The time taken can affect the picture and sound quality, resulting in a 'jerky' picture. The only suitable bandwidth on this road is to use ISDN and ethernet connections.

Some common reasons exist for using videoconferencing or WWW/MOO technology:

- To provide equitable access to resources ;
- To share resources, especially for scattered or rural populations;
- To deliver information on rapidly changing topics;
- To provide a virtual experience when the real experience is not feasible;
- To facilitate collaboration, information searching, problem solving, and decision making within a learning environment based on dialogue, distributed expertise, and problem solving;
- Visual connection can help to foster active participation;
- Remote experts can help validate understanding, provide feedback, and introduce practical examples and improve motivation;
- To support the use of diverse media; and
- Users can share applications and documents with real-time feedback.

WWW and MOO as the low road

The WWW and MOO software tools are available now on the desktop and can use common telecommunications infrastructure such as modems, the local telephone exchange and the Internet Service Provider (ISP). The client/server relationship and the protocols used make less demand upon bandwidth than videoconferencing. The bottom line is that for most of us, we get our information and communication as text - a format that exists for WWW as well as for MOO.

8. WWW/MOO INTERFACE

Much has been done by Glusman (1995) and Mercer (1995) at BioMOO, Epstein and Campbell (1994) at ChibaMOO with WWW/MOO interfaces and the Diversity University WWW/MOO interface is investigated in the next section. Several other proposals also seek to add multimedia capability to existing MOO platforms using the World Wide Web. The MOO is the dynamic partner of the WWW/MOO interface. WWW is the static partner Most recent attempts at developing a WWW/MOO interface have identified that there are four possible paths to follow in the future development of user interfaces, beyond the WEB and the MOO:

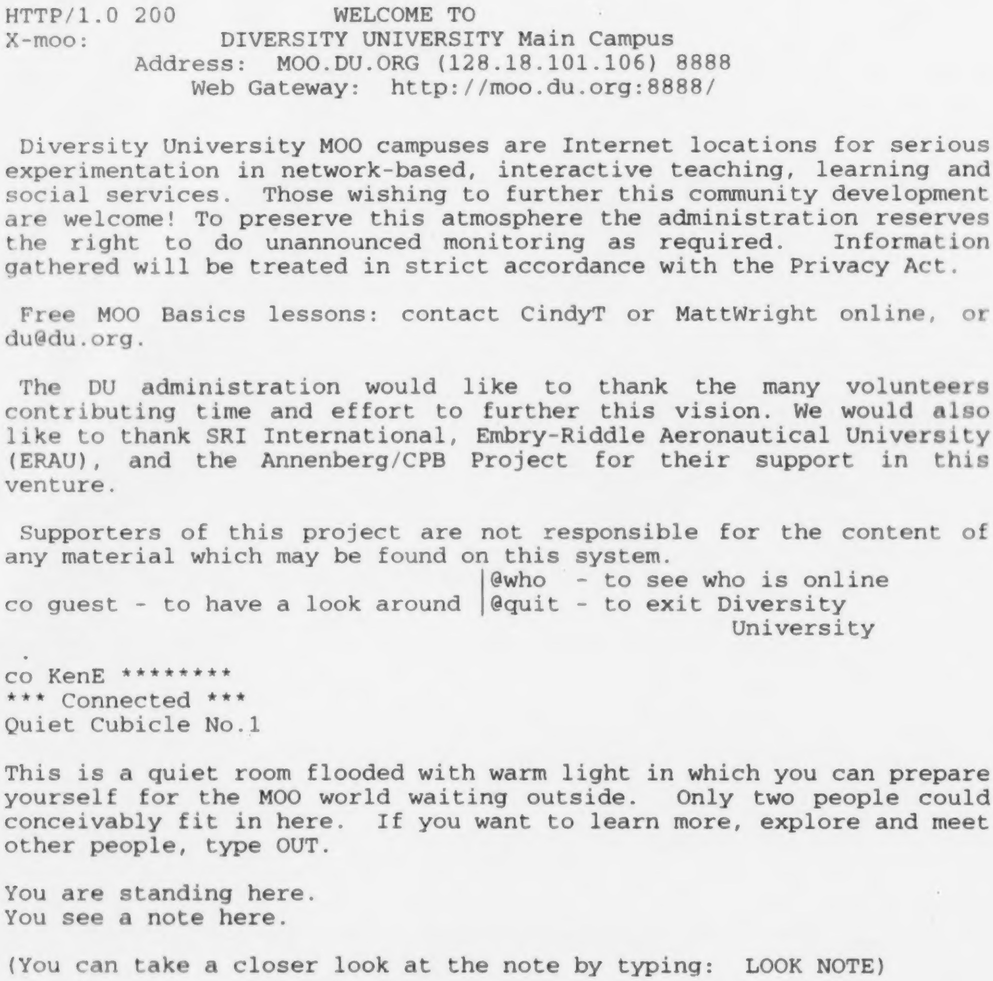
- multiple windows on the local screen;
- a new WWW client/server relationship;
- a large set of server-side perl or python scripts for dynamic documents (forms, maps); or

- Java programming language and the promise of dynamic clients.

8.1 WWW/MOO interface at Diversity University

Compare the interface connection as I connect to the DU MOO using a MOO client telnet session to <moo.du.org:8888> and then use my Webpass to interact with the MOO using the Netscape client at **<http://moo.du.org:8888>**. The simple activity of looking and reading a note is followed using both interfaces:

THE DU TELNET MOO CLIENT INTERFACE



```
HTTP/1.0 200           WELCOME TO
X-moo:          DIVERSITY UNIVERSITY Main Campus
           Address:  MOO.DU.ORG (128.18.101.106) 8888
               Web Gateway:  http://moo.du.org:8888/

 Diversity University MOO campuses are Internet locations for serious
experimentation in network-based, interactive teaching, learning and
social services.  Those wishing to further this community development
are welcome! To preserve this atmosphere the administration reserves
the right to do unannounced monitoring as required.  Information
gathered will be treated in strict accordance with the Privacy Act.

 Free MOO Basics lessons: contact CindyT or MattWright online, or
du@du.org.

 The DU administration would like to thank the many volunteers
contributing time and effort to further this vision. We would also
like to thank SRI International, Embry-Riddle Aeronautical University
(ERAU), and the Annenberg/CPB Project for their support in this
venture.

 Supporters of this project are not responsible for the content of
any material which may be found on this system.
                                |@who  - to see who is online
co guest - to have a look around |@quit - to exit Diversity
                                                 University

co KenE ********
*** Connected ***
Quiet Cubicle No.1

This is a quiet room flooded with warm light in which you can prepare
yourself for the MOO world waiting outside.  Only two people could
conceivably fit in here.  If you want to learn more, explore and meet
other people, type OUT.

You are standing here.
You see a note here.

(You can take a closer look at the note by typing:  LOOK NOTE)
```

Figure 5: Connection Screen at DU MOO

```
look note
You see a sheet of paper which appears to have some writing on it..

 This note is an object in the MOO.  In a MOO, such as the one you
are connected to now, everything is made up of objects.  This cubicle
and even your virtual body are also objects.  Just as in real life,
different kinds of objects have different things that can be done
to or with them.  In the case of this note-object, you can read it to
see the text written on it.
```

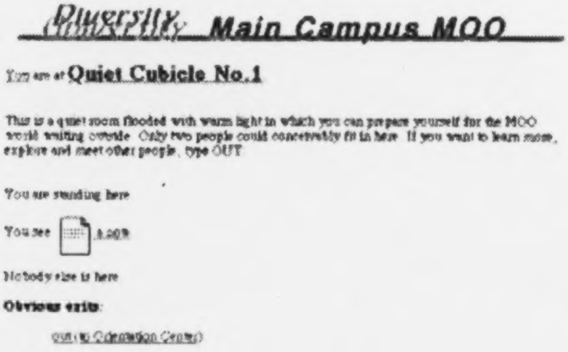
```
You may read this note by typing:  READ NOTE
(Note:  If you're not sure what to do, you can type LOOK to
look around.)
```

Figure 6: Looking at the Note

```
read note
                    Welcome to Diversity University MOO!

You are reading the writing on a note, which is an object that can be
picked up, given or dropped just like you could do with a real sheet
of paper.

There are some things you can do with any object in the MOO, and
some things which only make sense with certain types of objects.
There are several commands available to help figure out what
types of things you can do with an object, such as the following:

   To look at this note:                LOOK NOTE
   See more detailed information:       EXAMINE NOTE
   Read its help-documentation:         HELP NOTE

You can find out what objects are in a room by looking at the
bottom of the room description.  To see a room's description,
type LOOK all by itself.  The part that mentions what objects
are in the room usually begins with  `You see', at the end of the
description.  Be sure to look for it.

(You finish reading.)
(Note:  If you're not sure what to do, you can type LOOK to
look around.)
```

Figure 7: Reading the Note

THE DU WWW/MOO INTERFACE USING NETSCAPE



Diversity University Main Campus MOO

You are at **Quiet Cubicle No.1**

This is a quiet room flooded with warm light in which you can prepare yourself for the MOO world waiting outside. Only two people could conceivably fit in here. If you want to learn more, explore and meet other people, type OUT

You are standing here

You see a note

Nobody else is here

Obvious exits:

out (to Orientation Center)

Figure 8: Connection Page on WWW

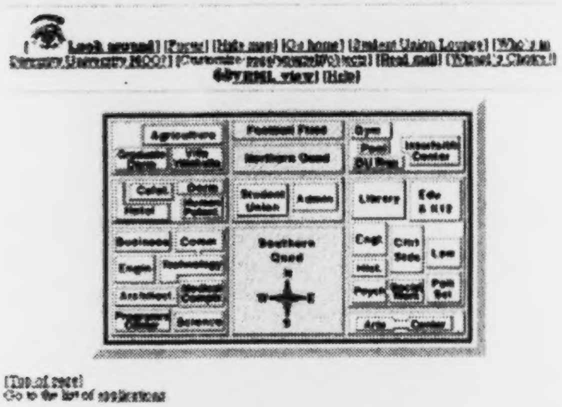
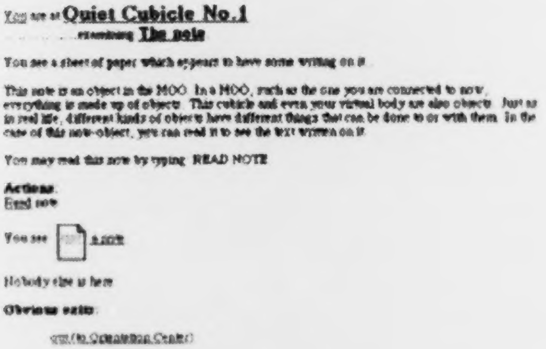

[Look around] [Pause] [Hide map] [Go home] [Student Union Lounge] [Who's in Diversity University MOO?] [Customize preferences/objects] [Read mail] [What's Choice!] [[illegible] view] [Help]
Agriculture
Football Field
Gym
Northern Quad
Pool
DU Bay
Center
Hotel
Student Union
Admin
Library
Edu & K12
Business
Comm
Southern Quad
Engin
Technology
Architect
Science
Engl
Civil
Law
Hist.
Psych
Pol Sci
Arts Center
N
W
E
S
[Top of page]
Go to the list of applications

Figure 9: DU MOO Navigation on WWW Interface



You are at **Quiet Cubicle No.1**
examining **The note**

You see a sheet of paper which appears to have some writing on it.

This note is an object in the MOO. In a MOO, such as the one you are connected to now, everything is made up of objects. This cubicle and even your virtual body are also objects. Just as in real life, different kinds of objects have different things that can be done to or with them. In the case of this note-object, you can read it to see the text written on it.

You may read this note by typing: READ NOTE

Actions:
Read note

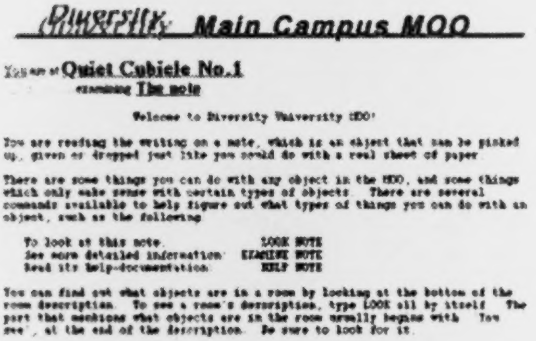
You see a note

Nobody else is here

Obvious exits:

out (to Orientation Center)

Figure 10: Looking at the Note on WWW



Diversity University Main Campus MOO

You are at **Quiet Cubicle No.1**
examining **The note**

```
              Welcome to Diversity University MOO!

You are reading the writing on a note, which is an object that can be picked
up, given or dropped just like you would do with a real sheet of paper.

There are some things you can do with any object in the MOO, and some things
which only make sense with certain types of objects. There are several
commands available to help figure out what types of things you can do with an
object, such as the following:

   To look at this note:              LOOK NOTE
   See more detailed information:  EXAMINE NOTE
   Read its help-documentation:       HELP NOTE

You can find out what objects are in a room by looking at the bottom of the
room description. To see a room's description, type LOOK all by itself. The
part that mentions what objects are in the room usually begins with "You
see", at the end of the description. Be sure to look for it.
```

Figure 11: Reading the Note on WWW

8.2 Pueblo as the 'new kid on the block'

The new technology of the Pueblo system from Chaco Communications, Inc. (1996) is the new tool to further enhance the virtual classroom. Chaco builds advanced multiuser Internet software. Chaco's revolutionary multiuser Internet client, Pueblo, adds 3D graphics and multimedia to the social world of MUDs (multiuser domains), for communications in a richer virtual community

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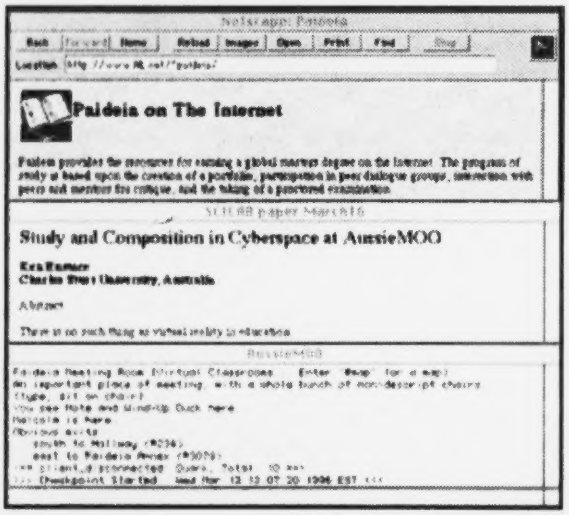
environment. Most educational MOOs (and MultiUser Shared Hallucinations called MUSHs) can be accessed by this new system.

9. WINDOW ON THE WORLD: A MATTER OF TIME AND INTERFACE

The importance of email in organisations and for communication cannot be overlooked. Email is used to set the meeting time (usually as GMT - since most of the world is coming in or out of local daylight savings time) and the Agenda. At the moment, 1:30pm AEST is 8:30pm the previous night in the San Francisco, California, so a suitable Time Window will have to be negotiated for participants. The Agenda and other resources can also be published on WWW.

As part of the Lyceum Project, the WOW Split-windows Interface was deployed as a useful tool for electronic observation and recording for collaborative writing and research. The WOW Interface (Figure 12) is a simple, easy-to-access, text-based, functional, and global low-tech method for developing a primitive Lyceum Collaboratory Model for computer conferencing. Video conferencing in some respects, is a superior medium for visual communication, but does not possess the text recording and collaborative writing characteristics described elsewhere in this paper. The components of the split-window screen from top-to-bottom are:

	Local Software	*Primary Function*
1	WWW Client	Electronic publishing, Information access, Agenda
2	Application	Electronic Worksheet or Note pad
3	MOO Client	Synchronous communication with collaborators



Paideia on The Internet

Paideia provides the resources for earning a global master degree on the Internet. The program of study is based upon the creation of a portfolio, participation in peer dialogue groups, interaction with peers and mentors for critique, and the taking of a proctored examination.

Study and Composition in Cyberspace at AussieMOO

Ken Eustace
Charles Sturt University, Australia

Abstract

There is no such thing as virtual reality in education

```
Paideia Meeting Room (Virtual Classroom)    Enter 'map' for a map)
An important place of meeting, with a whole bunch of non-descript chairs
(type, sit on chair)
You see Note and Wind-Up Duck here
Malcolm is here
Obvious exits
   south to Hallway (#236)
   east to Paideia Annex (#3076)
```

Figure 12: WOW Interface: a simple collaboratory virtual environment (VE)

10. MOO COLLABORATIVE WRITING CASE STUDY

The sequence of events (MOO transcripts) in collaborative writing of an academic conference paper during the month of June 1995, is depicted in five MOO conference transcripts (Eustace, 1995). The Create, Edit, Review cycle in developing a paper is quite robust, and was produced as a result of the five MOO conferences. The third of these desktop conferences was captured to a text file and is depicted in figure 13. This transcript deals with the final stages of refining the Title, Conclusion and References to a conference paper, with Malcolm McAfee in San Francisco and the author of this paper at home in Wagga Wagga:

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```
Paideia says, 'fine--reading last of am paper.'

You say, 'I am reading your draft- does it all go into Act 1 or do I
         'cut and Paste' etc? Which title do you  prefer? This one:
          Beyond the Web and the MOO in education'
                or this one:
          Beyond the Web and the MOO: implications for education'

Paideia says, 'i think it may have materiel suitable to 1 and iii.
               Certainly cut and paste.'

You say, 'I like the former, that appeared in your draft. It is a
          compact title'

Paideia says, 'I have certainly learned a lot and changed a lot over
               these few weeks.'

You say,      'So have I. I will talk about my work with my thesis
               and he Paideia association and a bit on this paper.
               Finally Malcolm does his bit.... How does that sound?
               Talk about Paideia, distance education, education and
               the interesting bits in our paper, anecdotes eg your
               playwright comment'

Paideia says, 'ok'
Paideia sober

You say, 'My definition of MOOing a while ago was: it is
         like playing lemmings, sim city and zork with the keyboard.
         Have you any references to put at the back of the paper?
         - I have some'

Paideia says, 'yes, i do--how many do you want and when do
               you want them? i think Curtis' paper from Xerox is one
               of the best.'

You say,      'You can email them soon, perhaps. I will put
               them in alpha order'

Paideia says, 'soon=today, this weekend, next week?'

You say,       'today. I have some material on the
               'joys of MUDderhood' to use'

Paideia says, 'Self and others in postmodern terms, Mihaly
               Csikszentmihalyi  The Evolving Self NY:
               HarperCollins,1993'
               Robert Jay Iifton  The Protean Self   NY:Basic, 1993
               Critical Theory. Jurgen Habermas. The Theory of
               Communicative Action Boston:Beacon'84/'87'
               Democracies and their Economies'
               Daly, H.E. and Cobb, J.B. For the Common Good
               Boston:Beacon  198?'
               Grady Booch  Object Oriented Design.:Benjamin/Cummings
               1991' is that a start on Biblio?'


You say,       'Yes a good start'

Paideia says, 'enough? i would add works of Arthur Danto--not sure
               which--probably Connections and Transfiguration of the
               Commonplace--do not have biblio info. i incline toward
               a little reading that suggests where we are coming
               from. what about some URLs like the Curtis piece and
               your MOO approach--could even just print out the page
               of yours--i think it is a good intro.'

You say,      'Do you want to add more to act 3 and a conclusion?'
               and I will add my bit'
```

```
Paideia says, 'i am back--it does require patience. do as you like.
               Please temper or eliminate my 6 points.  Too
               intemperate.'

You say,       'i am back. Which six points?'

Paideia says, 'i seem to be back. last six related to agenda for
               panel and any discussion with a little numbered
               diagram' how are we doing? ok'

You say,       'are the six points the last six in you draft 'on
                existing knowledge axis etc?'

Paideia says,  'yes'

You say,      'good. With inclusion of some log file examples from
               these sessions and the references, we have nearly 10
               pages, which is enough I feel. Anything else, we can
               include   in   our   seminar   or   Perth   panel   session
later...'
               I may go soon: Paideia conf tomorrow at 12:00GMT as
               usual...'
```

Figure 13. MOO Dialogue III: Settling on the Title, Conclusion and References

11. COLLABORATIVE WRITING IN RESEARCH

The role of CSCW is growing as a tool in documenting research. Some of the common MOO developments for teaching and research are listed below, from the TecfaMOO site (Schneider 1995) in Figure 14:

- Virtual Meeting spaces for researchers (desktop conferencing);
- Tutorial support for classroom teaching;
- Tutorial support for distance teaching;
- Environments for 'Just-in-time' Open Learning;
- Learning by doing educational environments;
- Spacial organisation of information retrieval;
- Dynamics of interactions in a virtual space; and
- Social and Political issues in virtual worlds.

Figure 14. The use of MOO technology in teaching and research

Communications technology can do similar enhancements for the teaching and research activities where a simple Collaboratory Model using WWW, email and MOO is used to augment communication amongst educators, spread across several time zones.

12. CONCLUSION

Bates (1994) describes the following conditions for learning in the 21st century:

> Learners will need to access, combine and transmit audio, video, text and data as necessary. If we take this as the design requirement, there is then a need to build systems that support this form of learning, both for formal and informal learning.

Habermas (1987) takes the sociologist's view, in contrast to the educational technologist's view of Bates, that MOO members think more critically about how culture, society and personality are integrated into their interrelationships. The importance of text and language remains through dialogue and the writing process, despite the migration to multimedia learning packages, by us all.

Higher bandwidth options on the Internet such as the desktop video environment of CU-SeeMe or the M-Bone provide a superior form of visual communication, but are not truly global at the moment to the same extent as the use of the Web and the MOO. Even in third world countries where only email and telnet services exist, users can still access WWW and MOO sites with a simple command-line interface.

MOOving around the Net still has trouble gaining acceptance as a serious venture, due in part to its origins and to the amount of technology educators are willing to accept in their methodology. This is part of what I call the Real to Virtual and back again - a resocialization problem, where only the connection is virtual and temporary, but the experiences are real and permanent. The problem may arise where your colleagues see the former only, and do not take your work seriously.

However, experienced participants share the view that the VE is just another form of reality where technology is now an integral part of the process of writing, learning and research. It is a new form of reality, whose presence, still makes some educators feel uncomfortable or threatened. The participants know that the social, virtual reality of a VE may be virtual and temporary, but the human interaction and learning that takes place is very REAL and lasting.

REFERENCES

Anderson, T. (1994). Using the Internet for distance education delivery and professional development. *Open Praxis*, 2: 8-11.

Bates, A. W. (1994). Educational multi-media in a networked society. *Open Praxis*, 2: 22-26.

Brownlee, R. and Ingham, J. (1996). Cu-SeeMe Report Discussion. [Online]. Available as email from VIDEOCON@ASUVM.INRE.ASU.EDU, VIDEOCON: Video Conferencing list.

Chaco Communications, Inc. (1996). Virtual Community Software. [Online]. Available at <**http://www.chaco.com/**>.

Collins, A. and Brown, J. (1988). The computer as a tool for learning through reflection. In Mandl, H. and Lesgold, A. (eds), *Learning Issues for Intelligent Tutoring Systems*, New York: Springer-Verlag: 1-18.

Curtis, P. and Nichols, D.A., (1993) MUDs Grow Up: Social Virtual Reality in the Real World Xerox PARC, Palo Alto, USA: [Online]. Available FTP: <**file://parcftp.xerox.com/pub/MOO/papers/MUDsGrowUp.txt**>.

Daly, H.E. and Cobb, J.B. (1988). *For the Common Good.* Boston, Mass.: Beacon.

Dimitroyannis, D. (1994). Virtual Classroom: A Case Study. 1st International World-Wide-Web Conference - WWW '94, Geneva, Switzerland, May 25-27, 1994. [Online]. Available at <**http://www.elsevier.nl/WWW94preview.html**>.

Duffy, T.M. et al (ed) (1993). *Designing Environments for Constructive Learning*. Berlin: Springer-Verlag.

Eustace, K. (1995). The Lyceum Project: Some aspects of networked interactive technologies in university teaching. Research in progress Available as email: <keustace@csu.edu.au>.

Eustace, K. and Fellows, G. The AussieMOO Home Page. [Online]. Available at <**http://silo.riv.csu.edu.au/AussieMOO.html**>.

Eustace, K and McAfee, M. (1995). Beyond the WEB and the MOO in Education. Proceedings of the Australian Computers in Education Conference, ACEC'95, July 9-13, Perth, Australia. [Online]. Available WWW: <**http://www.csu.edu.au/research/sda/Papers/webmoo2.html/**>.

Fanderclai, T.L. (1995). MUDs in Education: New Environments, New Pedagogies. [Online]. Available WWW: <**http://sensemedia.net/**>.

Habermas, J. (1987). *The Theory of Communicative Action. Vol. 1, Reason and the Rationalisation of Society.* (translated by Thomas McCarthy). London: Heineman.

Lipman, M. (1991). *Thinking in Education*. Cambridge: Cambridge University Press.

McAfee, M. (1994). Teaching and Learning on the Web: Paideia. 1st International World-Wide-Web Conference - WWW '94, Geneva, Switzerland, May 25-27, 1994.

McAfee, M. (1995b). The Paideia Home Page. [Online]. Available at <**http://www.inter.nl/~paideia/**>

McCloy, A. (1995). The Joys of MUDderhood. *Internet Australasia*, 1 (6).

Polin, L. (1993).Global Village as Virtual Community (On Writing, Thinking, and Teacher Education). In *Writing Notebook: Visions for Learning*. 11 (2): 14-16.

Reid, E. M. (1991). Electropolis: Communication and Community on Internet Relay Chat, Unpublished Honours Thesis. University of Melbourne, Department of History.

Rheingold, H. (1988). Virtual Communities, *Whole Earth Review*, Winter.

Rosenberg, M. S. (1992). Virtual Reality: Reflections of Life, Dreams, and Technology. An Ethnography of a Computer Society. Available from <msr@casbah.acns.nwu.edu>.

Schneider, D. (1995). The TECFAMOO Home Page. [Online]. Available at <**http://tecfa.unige.ch/tecfamoo.html**>.

Sparkes, J. (1984). Pedagogic differences between media. In Bates, A.W. (ed.) *The role of technology in distance education*. London: Croom Helm.

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